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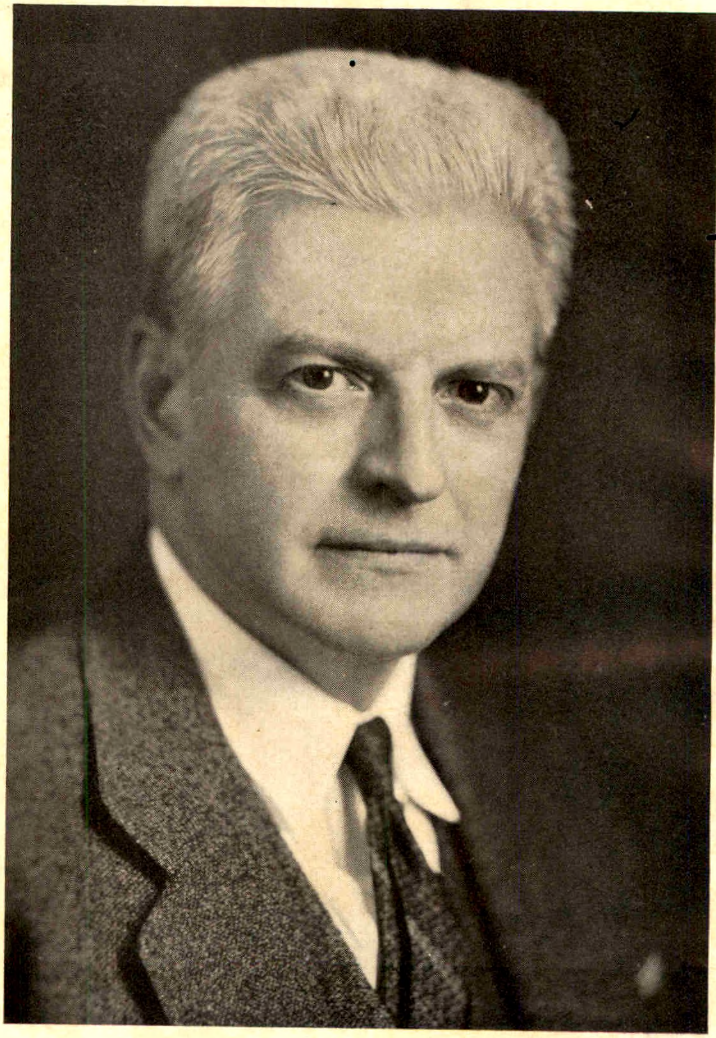

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THE CONDITIONS OF EXPANSION[1]

By SUMNER H. SLICHTER

I

In 1940, output per man-hour in American nonagricultural industries was roughly double that of 1920. In few periods of history has capacity to produce goods grown more rapidly than in the last twenty years. The industrial research staffs of American business in 1940 were nine times as large as in 1920, and so also were expenditures on research. At no time in the country's history had its capacity to increase production been so great. And yet the community which possessed this unparalleled productive capacity to improve methods and products did not glory in its strength. It was perplexed and baffled. Instead of looking forward confidently to achieving ever rising standards of living, it dreaded the future. It asked whether investment opportunities were becoming permanently insufficient, whether the rules for achieving prosperity were undergoing fundamental changes, whether new conditions were making its economic institutions no longer workable.

This sense of doubt and inadequacy did not exist, in the United States at least, before 1929. It was created by the depression and by the disappointing recovery. The great national effort required by the war may prove to be precisely what is needed to restore the country's faith in its capacity to master great problems. Nevertheless, the task of winning the peace requires that we face frankly the questions raised by the depression and the disappointing recovery. Is it true that new conditions—the decline in geographical expansion, the drop in population growth, shifts in economic and political power, and changes in public policy—are radically altering the problem of maintaining employment, so that plans for the post-war world must envisage important changes in policies and institutions? The thesis of these remarks is that the answer to this question is a qualified Yes.

[1] Presidential address delivered at the Fifty-fourth Annual Meeting of the American Economic Association, New York City, December 29, 1941.

II

Since the questions under consideration were first raised in this country by the disappointing recovery from the depression, it is convenient to begin our survey by a brief examination of some of the circumstances affecting recovery.

Whatever may be the ultimate effects of the decline in geographical expansion or the drop in the growth of population, neither of these influences appears to explain the depression or the disappointing recovery. Of course, it would have helped had there been another Mississippi Valley to develop. But no sudden change occurred in the state of our natural resources between the twenties and the thirties. Furthermore, older and more developed countries experienced a milder depression and recovered more completely.[2] As for the spectacular drop in the rate of population growth between the twenties and the thirties, evidence is lacking that it produced either an unfavorable shift in the consumption function or an unfavorable change in the slope of the function. Indeed, the number of non-employed persons per member of the working force has shown no appreciable change in forty years.[3] The possibility that drop in the population growth might have retarded expansion by limiting the opportunity to widen capital is excluded partly by the fact that the increase in the number of families dropped only slightly, and partly by the large and persistent unemployment which characterized the period. As far as the labor supply was concerned, ample opportunity to widen capital existed.

III

To a considerable extent the depression and the unsatisfactory recovery are explained by conditions which do not reflect permanent changes in the economic environment. Failure of banks was probably the most important single influence in making the depression more severe in the United States than in most other countries. No one would contend, however, that the vulnerability of our banking system to depression was a necessary or permanent condition. The very severity of the depression and the bank failures which accompanied it were themselves major impediments to recovery. Consider their effect in diminishing the fortunes of thousands of local capitalists and in making these men reluctant to risk the remainder of their resources. Small local

[2] By 1936, when 20 out of 23 countries reporting industrial production to the League of Nations had surpassed the output of 1929, industrial production in the United States was still 7 per cent below 1929. This country was in twenty-first place out of 23 countries in recovery from 1929. The industrial production in the United Kingdom in 1936 was 15.8 per cent above 1929; in Sweden, 35.0 per cent; in Finland, 39.0 per cent; in Denmark, 30.0 per cent; in Hungary, 18.4 per cent.

[3] The number of non-employed for every gainfully employed worker has changed as follows: 1900, 2.61; 1910, 2.41; 1920, 2.54; 1930, 2.51; 1940, 2.50.

capitalists have always been an important dynamic influence in the economy.[4] The bank failures and other special circumstances were also largely responsible for the great amount of distress housing which hung over the market until 1937. This prolonged the depression in residential building long after the rest of the economy had revived. In the absence

[4] Some indirect evidence of the effect of the depression upon local capitalists is provided by the income tax returns. For example, if one compares the volume of income after taxes in 1931 and 1935, two years in which the national income was about 55 billion dollars, one finds that incomes of $25,000 or more in the former year totaled 1.9 billion dollars, and in the latter, 1.5 billion dollars, or 21.9 per cent less. (Imre de Vegh, "Savings, Investment, and Consumption," *Am. Econ. Rev.*, Suppl., vol. xxx, Feb., 1941, p. 238.) These figures do not allow for capital gains and losses. Since the year 1931 was one in which capital losses were large, the realized incomes of over $25,000 before capital losses in 1931 were undoubtedly considerably more than 1.9 billion dollars.

An impediment to recovery after 1933 that has been neglected is the scarcity of business savings. The principal source of venture capital always has been the plowed-back earnings of business enterprises. These have always been the spearhead of expansion, the prerequisite for drawing in funds from the outside. Although individual corporations were able to save, corporations as a whole had no savings in the entire period from 1929 to 1939. And between 1935 and 1938, dividend disbursements exceeded earnings by a billion a year.

Corporations failed to save in the main because during the twenties they had established high dividend rates which they were attempting to restore. The disbursements of dividends were encouraged in 1936 and 1937 by the undistributed profits tax. Of course, enterprises had depreciation allowances, but there were severe demands upon these because of the postponed maintenance from the worst years of the depression. Even when allowance is made for funds from depreciation allowances, the amounts available for reinvestment by corporations in 1935 and 1936 were far smaller than in 1923, when the national income was comparable in amount. In 1923, undistributed profits and depreciation of non-financial corporations were 5.3 billion dollars. In 1935 and 1936, undistributed profits, depreciation, and depletion were $2.0 billions and $2.7 billions respectively. (T.N.E.C., *Hearings,* Part 9, "Savings and Investment," p. 4039, Exhibit 582.)

An important aspect of plowed-back earnings is that they are venture capital. They increase the equity of the business owners. Plowed-back earnings must be regarded as an even more important dynamic influence than the investments of the well-to-do. In the five years, 1922 to 1927, for example, business savings were 13.4 billion dollars. (S. Kuznets, *National Income and Capital Formation,* 1919-1935, p. 24.) Income of persons receiving more than $25,000 a year (after the payment of federal income taxes) in the same period was 21.9 billion dollars. (Imre de Vegh, *loc. cit.*) If we assume that half of the incomes above $25,000 were saved, the investment-seeking funds from this source in the period 1922 to 1927, were not quite 11 billion dollars.

Many economists have regarded business savings as a deflationary influence. In periods of contraction they probably are. The view that they are always a deflationary influence overlooks the fact that expansion begins with the plowing back of earnings. This is a preliminary step to getting outside capital. This is why business savings constitute the spearhead of expansion. In order to judge the full effect of plowing back of earnings, one must allow for its contagious effect. An expansion or improvement by one competitor compels rivals to make investment in an attempt to hold their position. This involves a "multiplier" which is different from the consumption multiplier used by Keynes. The Keynesian multiplier is based upon the amount of additional consumption which will be induced by a given expansion of investment. The investment multiplier indicates the additional investment that will be directly induced by a given expansion of investment.

of this distress housing, building construction in the period 1934 to 1937 would undoubtedly have been two to three times the rate which prevailed. Since housing has always been the most important single outlet for investment-seeking funds, the persistence of the depression in housing was a main deterrent to recovery.[5]

But conditions of a more permanent nature have influenced the recovery. The depression produced, or at least greatly accelerated, shifts in economic and political power which are likely to be permanent and it enormously stimulated the making of economic policy by the government. These shifts in power and changes in public policy not only affected recovery from the depression, but altered the long-run problem of giving employment. It is important to examine their influence.

IV

On the whole, the shift in economic and political power impeded recovery. It did this in three principal ways. In the first place, the very fact that a great shift in power was going on created uncertainty concerning the long-term yield on capital and hence created an abnormal preference for short-term production plans. In this way, uncertainty narrowed investment opportunity and reduced temporarily the marginal return on capital.[6]

In the second place, the shift in economic power altered in many plants the control of managements over labor costs and increased the difficulty of converting a rise of output into profits. It is instructive to compare the revival of profits after 1934 with the revival after 1921—two years in which national income was about 50 billion dollars. In 1921, non-financial corporations had a deficit of 355 million dollars, in contrast with a profit of 884 million dollars in 1934. Between 1921 and 1923, a rise of the national income of 17.2 billion dollars to a level of 70 billion dollars produced a 5.5 billion-dollar gain in the profits of non-financial corporations. Between 1934 and 1937, a slightly larger

[5] Part of the difficulties in housing must be attributed to unsatisfactory financial instruments, particularly short-term second mortgages.

[6] The extent to which the shifting of economic power and the imposition of new responsibilities upon business caused short-term plans to be preferred to long-term plans is roughly indicated by comparing for the two periods 1922-29 and 1933-39 expenditures on equipment in relation to expenditures on plant. Since expenditures on equipment are in large measure for replacement and expenditures on plant are in the main for the enlargement of capacity, the change in the relation between the two roughly illustrates the change in the importance of expenditures on long-run plans in relation to expenditures on current needs. Between 1922 and 1929, 81.3 cents were spent by business enterprises on plant for every dollar spent on equipment; between 1933 and 1939, only 44.5 cents were spent on plant for every dollar spent on equipment. Between 1922 and 1929, expenditures on plant were 29,774 million dollars and on equipment 36,626 million dollars; between 1933 and 1939, expenditures on plant were 10,850 million dollars and on equipment 24,155 million dollars.

rise in the national income (21.1 billion dollars) to a level of 71.4 billion dollars produced a gain of 3 billion dollars in profits. When profits come hard, the disposition to venture is weak.

The lesser success of enterprises in converting a rise of business into profits after 1933 than after 1921 is explained by a variety of circumstances, but very largely by the movements of labor efficiency and wages. Physical productivity per man-hour grew twice as fast after 1921 as after 1933 or 1934, but wage rates went up twice as rapidly in the second period as in the first. These differences were not entirely compensated by price movements.[7]

V

During the period when shifts in economic power and public policy substantially reduced the attractiveness of long-range plans, government fiscal policy was developing in ways that greatly reduced the marginal efficiency of capital and especially diminished the attractiveness of ventures involving considerable uncertainty and risk. To begin with, a large deficit in the regular budget persisted undiminished, except for one year,

[7] Between 1921 and 1923, man-hour productivity in manufacturing increased 3.06 per cent per year as against 2.0 per cent between 1934 and 1937. In mineral industries it increased 7.1 per cent a year in the first period and 5.0 per cent in the second; in railroading, 4.3 per cent in the first period, and 3.8 per cent in the second. (S. Bell, *Productivity, Wages, and National Income,* pp. 269, 271, 274.) Hourly earnings in manufacturing increased 3.2 per cent between 1921 and 1923, according to the National Industrial Conference Board. Between 1934 and 1937, hourly earnings in manufacturing increased 15.7 per cent according to the U.S. Bureau of Labor Statistics, and 19.6 per cent according to the National Industrial Conference Board.

In some respects it is more satisfactory to compare the period 1921 to 1926 with the period 1933 to 1937. In the first period man-hour productivity in manufacturing increased 4.3 per cent a year as against 1.7 per cent in the second; in the mineral industries, it increased 8.0 per cent a year in the first period and 3.7 per cent in the second; in railroading, it increased 3.3 per cent per year in the first period and 3.0 per cent in the second. Between 1921 and 1926, hourly earnings in manufacturing rose 8.4 per cent; between 1933 and 1937, 40 per cent.

In the case of electric light and power, productivity per man-hour apparently increased more rapidly following 1933 than following 1921—6.9 per cent a year between 1933 and 1937, instead of 2.8 per cent a year as between 1921 and 1926. The actual difference was probably considerably less than the figures indicate because there was much more construction in the industry in 1926 than in 1937. Some of the construction is done by outside contractors whose employees are not counted as in the industry. Much of it, however, is done by employees of the utilities. As the construction is not counted as part of the product of the industry, the use of employees of the industry tends to reduce the output per man-hour. The changing proportion of employees working on non-current operations (together with the changing proportion engaged on maintenance and repairs as maintenance is now postponed and then accelerated) makes all figures on man-hour productivity more or less unreliable. In the case of comparisons between 1921-26 on the one hand, and 1933-37 on the other, the changes in construction and in maintenance policy probably cause the difference in increase in efficiency to appear to be less than it really was.

Finished goods declined relative to raw materials in both recoveries (as is usual)

in the face of a substantial rise in the national income and of large increases in taxes. Deficit financing is too new to be well understood. We are still in the stage of trying to find out why the course of events does not correspond to the theoretical models. Nevertheless, it is possible to see why deficit financing at the best is an unreliable device and why it may do little good and may even impede an expansion of privately produced income. Since the saving function is considerably more elastic relative to national income than the investment function, a relatively large deficit is necessary to raise the national income by a small amount. But a deficit may cause the investment function to shift to the left, especially if it arouses the expectation of higher taxes and if the government has manifested a strong propensity to tax profits. In this event, all or nearly all of the stimulus of the deficit may be canceled.[8] When

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but more so in the second recovery than in the first. The following are the indexes of wholesale prices of raw materials and finished goods:

Year	Raw materials	Finished Goods
1921	88.3	103.3
1922	96.0	96.5
1923	98.5	99.2
1926	100.0	100.0
1933	56.5	70.5
1934	68.6	78.2
1935	77.1	82.2
1936	79.9	82.0
1937	84.8	87.2

A comparison of 1926 and 1937 is of interest. Output per man-hour in manufacturing in 1937 was apparently 33.2 per cent above 1926, hourly earnings 22.4 per cent above 1926. Finished goods were slightly higher relative to raw materials than in 1926. Nevertheless, non-financial corporations made profits of only 3.8 billion dollars on sales of 108.4 billion dollars in 1937, as against profits of 5.8 billion dollars on sales of 106.2 billion dollars in 1926—a margin of 3.54 cents per dollar of sales in 1937 and of 5.44 cents in 1926.

[8] Satisfactory information on the saving function is virtually impossible to obtain because the relation of consumption to income payments has been affected in recent years by changes in taxes and other conditions. These changes may or may not be permanent. Further changes appear to be ahead. At any rate, they indicate that attempts to deduce the saving function from time series are likely to have little significance for the future. Such information as is available indicates that in the range between a national income of 60 billion dollars and 80 billion dollars there is an increase of about 40 cents in saving for one dollar increase in income. Hence, a persistent deficit (or an increase in investment) of 4 billion dollars is necessary to raise the national income by about 10 billion dollars. If the persistence of the deficit were to produce an unfavorable shift in the investment function sufficient to cut private investment from 7 billion dollars to 5.25 billion dollars (or 25 per cent) at a national income of 70 billion dollars, almost half the benefit of the deficit would be lost. A shift of even greater magnitude in the investment function might easily be produced by expectations of higher taxes. During the last decade deficits have been working most of the time against a sharply declining marginal propensity to spend or invest additional income, as the drop in the velocity of bank deposits outside New York from 28.0 in 1933 to 22.6 in 1939 and 21.6 in 1940 plainly indicates. Of course, the drop in the marginal propensity to spend must be attributed to a variety of causes, but one of

neither rising national income nor rising tax rates reduced the deficit, who could avoid concluding that substantially higher taxes were ahead, and that, in view of the record, they might fall in substantial measure on profits?

To the influence of the deficit in producing an unfavorable shift in the investment function must be added tax changes well designed to discourage innovations and experimentation and to reduce the attractiveness of risky ventures. Between 1929 and 1936, the effective rate of the corporate income tax was virtually doubled.[9] It is no answer to say that the tax is eventually shifted, because it is passed on only by restricting the volume of investment. And since corporate profits are produced in a large measure by innovation and experimentation, doubling the tax on corporate profits amounted to doubling the tax on innovation and experimentation.

Some changes in tax laws were especially well designed to penalize chance-taking. The loss carry-over provision in the corporate income tax was limited to one year in 1932, abolished in 1933, and not restored until 1938. Capital losses, which had been fully deductible up to 1932, were deductible only to a very restricted degree throughout the entire critical period between 1932 and 1938.

Similar changes on an even more drastic scale were made in individual income tax rates. Until 1932, the highest surtax rate was 20 per cent, applicable on incomes over $100,000. In 1932 surtaxes were greatly raised. They were raised again in 1934 and 1936. Dividends from corporations were made subject to the normal tax in 1936. By 1938, the normal tax and surtax took 35 per cent of additional income immediately above $50,000; 51 per cent immediately above $74,000; and 62 per cent immediately above $100,000. How drastically tax increases reduced the marginal returns on investments in equities by the persons who did the most saving is illustrated by the fact that by 1938 a man with an income of $50,000 would need a yield of 8 per cent before his tax to obtain a return of 5.4 per cent. At the same time, the capital loss provisions of the income tax were modified to narrow greatly the opportunity to deduct capital losses.[10] In other words, the govern-

them seems to have been a conjunction of persistent deficits with a disposition to increase those taxes which must directly limit the marginal efficiency of capital.

[9] The base rate, which was 11 per cent in 1929, was raised to 12 per cent in 1930 and 13.75 per cent in 1932. The consolidated return was abolished for all corporations except railroads in 1934, intercorporate dividends were taxed in 1935, a tax on undistributed profits was added in 1936. Other changes which increased the effective burden, such as abolition of the loss carry-over and restriction on credits for capital losses, are discussed below. The corporate income tax was further increased by substantial additions to the base rates in 1938 and 1939, not to mention the subsequent increases required by the defense program.

[10] Up to 1932 capital losses could be deducted in full for periods up to two years. Above two years the taxpayer had the option of paying 12½ per cent as a tax or deducting 12½

ment was greatly increasing the difficulty of adding to one's capital by successful ventures and at the same time was severely limiting the possibility of charging unsuccessful ventures against successful ones. Can one imagine a better arrangement for encouraging investors to avoid venturesome commitments?

VI

What of the long-range outlook? If to shifts in economic and political power, which have already created difficult problems, is added a narrowed opportunity for extensive investment, does not the problem of providing employment become so formidable as to require great changes in policies and institutions?

One may assert with reasonable confidence, I think, that the consumption function will slowly become more favorable to employment. For more than a generation the propensity to consume has been rising just about fast enough to prevent the increase in per capita incomes from causing a drop in the proportion of the national income currently consumed. It is noteworthy, however, that in the twenties, despite the rapid rise in per capita income, capital formation was relatively less than in the preceding decade—19.6 per cent of gross product as against 22.8 per cent.[11] In the post-war world, the propensity to consume will be higher than in the twenties. Corporations will be hampered, as they have been for nearly a decade, in devoting part of their income to capital

per cent as a loss. The act of 1932 greatly restricted the deduction of short-term losses and the act of 1934 restricted the deductions of all capital losses to the amount of capital gains plus $2,000.

Mr. Alexander Sachs stresses the deterring effects in the act of 1938 of the disconnection between long-term and short-term gains and losses. If a long-term gain and a short-term loss are realized in the same year, the latter cannot be used to offset the former. Furthermore, if the short-term gain is not realized, the enterpriser is exposed to the danger that, in the event of the gain's becoming a loss, it can be credited only to the extent of 15 per cent or 20 per cent.

[11] S. S. Kuznets, "Capital Formation, 1879-1938," *University of Pennsylvania Bicentennial Conference*, p. 70.

The real rise in the individual propensity to consume was considerably more than is indicated by the figures of gross capital formation. The change in individual propensities to consume cannot be inferred entirely from the proportion of output devoted to capital formation. In the twenties a considerable increase in public capital formation (roads and bridges) was financed by new taxes such as gasoline taxes. Such capital formation, of course, represents no increased disposition on the part of individuals to save. It may be thought that the proportion of income devoted to consumption was abnormally high in the twenties because of the making of purchases postponed during the war and the liquidation of Liberty Bonds for that purpose. This may have been true for the first several years of the decade. But annual figures on capital formation indicate that the proportion of output devoted to capital formation tended to decline between 1923 and 1929, despite a rise in per capita real income.

Capital formation by corporations was facilitated by the fact that managements were not under pressure to restore previously high dividend rates and hence were fairly free to plow back a large proportion of increased earnings.

formation by pressure from stockholders to maintain dividend rates.[12] Post-war tax collections by the federal government will probably be at least twice pre-war. The additional amounts will be collected largely from the middle incomes.[13] Much of the saving of recent years has been temporary rather than permanent. This is true of the saving represented by premiums for life insurance, annuities, and pensions which in the main are intended to be consumed rather than to provide permanent sources of income. Benefit payments of life insurance companies are gradually catching up with their premium receipts and eventually the difference between the two will be little greater than the operating expenses of the companies.[14]

Too much importance, however, must not be attached to prospective changes in the consumption function. If there is a decline in the disposition to take risks in order to increase capital, and a rise in the desire to avoid risks in order to conserve capital, a drop in thriftiness may be accompanied by a rise in unemployment.[15] The large shift in the con-

[12] It is not generally known that throughout the recovery until 1939 dividend disbursements each year exceeded corporate earnings by a billion dollars or more.

[13] Satisfactory data are not available for estimating how much a higher tax burden would reduce savings in the middle incomes. One may roughly estimate, however, that in the case of incomes from $10,000 to $50,000 a year every additional dollar taken in taxes will reduce the volume of saving by 25 to 50 cents. The higher taxes will tend also to affect the slope of the function, making less pronounced the rise in the volume of savings which accompanies a rise in income. It might appear that this change, while making the economy more responsive to any stimulus, would also make it more unstable. This tendency will be largely offset, however, by the spread of unemployment insurance.

[14] Prior to 1929 the premiums of life insurance companies were increasing far faster than payments to policyholders. Between 1929 and 1940 the payments of life insurance companies to policyholders increased more than premium payments. Between 1929 and 1940 total premium income of life insurance companies increased from 3,350 million dollars to 3,944 million dollars, or 594 million dollars. Payments to policyholders increased from 1,962 million dollars to 2,681 million dollars, or 719 million dollars. (*The Spectator Life Insurance Yearbook*, 1935, pp. 414-15; and 1941, p. i.)

The disposition to save in years immediately after the war will be affected by the extent to which individuals and business enterprises reduce their debts during the war. Reduction of private indebtedness will assist in financing the war, provided creditors put the proceeds into government bonds. Reduction in mortgage indebtedness and installment debts should be encouraged both to finance the war and to create the basis for a high level of consumption in the years after the war.

A large rise in the price level during the war may have the net effect of raising the post-war propensity to save, because it will probably induce some attempts to restore the purchasing power of savings or of the income from savings.

[15] This is simply one way of saying that a favorable shift in the consumption function may be offset by an unfavorable shift in the schedule of liquidity preference. The desire for security of principal will be satisfied to a considerable extent by holding idle cash in the event that venture capital is not sufficiently abundant to provide a satisfactory cushion for new fixed income securities. There are several elements in thriftiness and they may change in relative importance. The kind of thriftiness that does most good is that which is based upon an attempt to increase one's capital.

It is possible, of course, to have steadily increasing unemployment because of an insufficiency of savings. The annual increments of investment-seeking funds may not be

sumption function in the United Kingdom between the pre-World War and the post-World War decades, as indicated by Colin Clark's estimates, did not prevent the persistence of a large amount of unemployment throughout the twenties.[16] Too much attention has been paid by recent economic theory to mere changes in the amount of thriftiness and too little to changes in the kind of thriftiness and to shifts in the propensity to invest.[17]

VII

The effect of the drop in the rate of population growth upon investment opportunity might seem to depend in the main upon how rapidly the marginal return on capital falls as capital per worker increases. Except for the investigations of Douglas, little work has been done on this point. The problem, of course, is not how marginal efficiency of investment behaves under static conditions but how it behaves under the rate and kind of technological change and the price movements that may be expected to occur. It is highly probable (though not inevitable) that technological change will increase the amount of capital that each worker can advantageously manage because inventions consist largely of making apparatus more automatic and adding automatic attachments. Douglas estimates that an increase of 270 per cent in fixed capital per worker in manufacturing between 1899 and 1922 was accompanied by a drop of 44 per cent in the marginal physical productivity of capital.[18] This is not a rapid drop and it occurred when technological research was on a far smaller scale than it is now. It is interesting to observe that the drop in the marginal physical productivity of capital was accompanied by a large rise in interest rates.[19] This contrast between the movement of interest rates and the marginal physical productivity of capital suggests in how great measure the marginal return

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sufficient to provide plant and equipment necessary to enable the increment of workers to earn the prevailing scale of wages.

[16] Colin Clark, *National Income and Outlay*, p. 185.

[17] Liquidity preference appears to be sensitive to changes in investment opportunity. An improvement in the marginal efficiency of capital not only produces more investment under a given state of liquidity preference but also actually changes the state of liquidity preference; that is, produces a shift in the schedule of liquidity preference. Likewise, a drop in the marginal efficiency of capital produces a rise in liquidity preference. Furthermore, a rise in liquidity preference produces a drop in the marginal efficiency of capital and hence a further rise in liquidity preference. Because the marginal efficiency of capital and the schedule of liquidity preference are not independent variables, a change in either one of them is more important in determining the capacity of the economy to expand than changes in the consumption function.

[18] P. H. Douglas, *The Theory of Wages*, pp. 121, 125, 130, and 146.

[19] Macaulay's index of the adjusted yield of railroad bonds rose from 3.182 in 1900 to 5.168 in 1920. F. R. Macaulay, *The Movements of Interest Rates, Bond Yields and Stock Prices in the United States Since 1856*, pp. A 152, A 157.

on capital is determined by price trends and by expectations.[20] Of course, if the United States by any chance were able to arrange its affairs to permit the exportation of capital on a considerable scale in the post-war world, the problem of opportunities for extensive investment would be a generation or two in the future.

Technological research is growing rapidly, as the ninefold increase in personnel in twenty years indicates, and it will undoubtedly continue to grow rapidly. Indeed it must now be regarded as one of the most important instruments of economic adjustment. But even today there are only about 3,500 industrial research laboratories in the country. Out of over 100 billion dollars of sales by corporations only 300 million dollars goes into industrial research, or less than one-third of one per cent. Virtually half of all industrial research is done by four industries—chemicals, petroleum, electrical apparatus, and electrical communications. In 1940, there were about 15,000 chemists in industry and about the same number of engineers, but only 2,000 physicists.[21] Some people believe that the present war will put the physicists into industry in much the same way that World War I put the chemists into industry. Private enterprise has never yet had to face squarely the question of whether it is able to provide over the long term the amount of employment which the community expects. When it is confronted with this question, the expansion of industrial research may be considerable. Likewise one may expect considerable expansion of "new product" departments charged with the responsibility of discovering opportunities for new products and assisting in their development. Only a few concerns now possess such departments. Little has been attempted by public policy to make industrial research more easily available to small enterprises. All of this points to the conclusion that industrial research is in its infancy and that it offers a way of providing investment opportunities that will be far more important in the future than in the past.

VIII

By the end of the war, roughly one-third of the pay rolls of industry will be directly determined by collective bargaining. Wage rates in

[20] As men were thrown out of work in the capital goods industries through failure of the increase in the working force to create opportunities for extensive investment, the unemployed would become available for employment in new plants and on new machines and thus would furnish opportunities for extensive investment. But the idle plant produced by the contraction of employment would limit the return on new investment and thus tend to discourage it. Whether or not unemployment produced extensive investment, therefore, would depend upon the terms on which the unemployed would accept work. They would need to be willing to accept employment at sufficiently below current rates to make new investment opportunities attractive despite the existence of idle plant and machines.

[21] National Resources Planning Board, *Research—a National Resource*, vol. II, *Industrial Research*, pp. 176-77.

many nonunion plants will be sensitive to changes in union scales. The marginal efficiency of capital depends, among other things, upon the control of management over costs. In the face of large and powerful labor organizations, will American business possess sufficient control over costs to maintain a high marginal efficiency of capital? Or will unions keep investment opportunity limited by promptly converting any increase in demand for labor into higher wages?[22]

Many economists believe that bargained changes in costs are bound to be completely translated into higher prices, so that changes in the general wage level produce solely price effects and not output or employment effects. The relationship between bargained changes in costs and prices is undoubtedly the most important issue in the theory of employment. The conclusion that rises in costs are translated into higher prices so that the return on investments is not affected presupposes, among other things, a self-contained economy. But even in a self-contained economy, the assumed relationship between costs and prices requires a theory of liquidity preference which is not convincing. It is assumed that higher wages reduce liquidity preference and that the shift in the schedule of liquidity preference so increases the volume of active deposits that prices rise in proportion to the advance in wages. All of this amounts to assuming that the volume of deposits held idle is a residual and that it is independent of the purchasing power of the idle deposits.[23] These assumptions are far from realistic. If general increases in the wage level cannot be counted on to produce offsetting increases in expenditures and prices, a rise in labor's bargaining power will tend to reduce the marginal efficiency of capital.[24] The resulting

[22] In other words, will unions prevent any expansion of demand from producing more employment by causing it to produce higher wages?

[23] Suppose that the first reaction of managements to a rise in costs were to advance prices in proportion. To sustain the higher price level the public would have to be willing to hold a smaller amount of real purchasing power in cash. It is not clear why a rise in prices should produce this result, except as higher prices reduce the purchasing power of incomes. This might produce some tendency to reduce idle deposits. But the drop in the purchasing power of money would also limit the decrease in idle deposits since the quantity of money which people desire to hold idle is presumably affected by its purchasing power. Equilibrium would eventually be reached at some point below the original volume of output and employment, but with money expenditures somewhat above the original level. In the above analysis, it is assumed that the demand for assets in the form of idle deposits is such that idle deposits drop as the purchasing power of money drops. It is possible, however, that a drop in the purchasing power of money will cause an increase in the number of dollars held idle. In that event an effort to pass on an increase in costs in the form of higher prices would produce an even greater drop in output and employment.

[24] It is conceivable that wages might get so low and that such a large proportion of the national income might go to savings and such a small part to labor that further reductions in wages would cause more than a proportionate drop in total expenditures. As the increase in investment-seeking funds produced a drop in the marginal return on investments, the proportion of money held idle would increase. Eventually it would increase so rapidly as more than to offset the effect of the drop in costs and prices upon the physical

unfavorable shift in the investment function is not offset within the usual range of national income by the favorable effect of the redistribution upon the savings function.

The problem which confronts the individual investor or the enterprise is not the effect of general increases in wages on prices, but the effect of the spread of union organization upon the probable return from a particular investment. When one examines this matter, it is difficult to avoid the conclusion that large and powerful unions tend to reduce the marginal efficiency of capital. It is true that collective bargaining frequently raises plant efficiency by giving management better information about conditions and by giving representatives of the men an opportunity to point out mistakes of management. Nevertheless, powerful unions increase the likelihood that successful concerns will have to share their prosperity with the employees. Until recently there has been no offsetting protection against losses. The development of the policy of union-management coöperation during the last twenty years has interesting theoretical implications. Most of the coöperative plans have been started in high-cost plants. They have been a way by which the workers in these plants tried to safeguard their jobs. If union-management coöperation were to become widespread in high-cost plants, it would go far to offset reduction in the marginal efficiency of capital produced by the encroachment of unions on the profits of the most successful concerns. For the time being, however, one must conclude that the spread of unionization tends to reduce the marginal return of capital.

Are unions likely to reduce the return so seriously as to limit materially the capacity of the economy to expand? That is a possibility, but not a necessity, as the experience of the United Kingdom and Sweden shows. One may assert with confidence, I think, that even a large and powerful labor movement will be less harmful to expected returns on investments than the shift in power that has been going on since 1933.[25]

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volume of transactions. Hence two zones might be distinguished: one in which expenditures change proportionately less than changes in wages and in which wage increases are unfavorable to employment; and one in which expenditures change proportionately more than changes in wages and in which wage increases are favorable to employment. In the former zone, the usual one, the effect of wage changes on the investment function would not be offset by their effect upon the savings function; in the latter zone, the effect of wage changes upon the investment function would be offset by their effect on the savings function. The latter zone would appear to be an unstable one because wage increases, by reducing unemployment, would produce more wage increases and because wage cuts, by producing more unemployment, would produce more wage cuts. As a matter of fact, wages in relation to prices apparently never get down into the zone of instability.

[25] Such a period of shifting creates great uncertainty over the future of costs. In the face of such uncertainty managers may be more reluctant to make long-term commitments than they would be after unions are better established and stronger, but when economic

There is nothing fixed or inevitable about the way in which collective bargaining operates and the effects which it produces. I have in mind a case where union policy has reduced output per man-hour over 40 per cent in seven years. I have in mind also a steel mill where the president recently said that he would not sell his plan of union-management coöperation for a million dollars. Such are the possible extremes. Management has it within its power to influence greatly the way in which collective bargaining operates. As managers become reconciled to the necessity of dealing with trade unions, they may be expected to be increasingly successful in gaining help on operating problems from unions. The effect of collective bargaining upon the marginal efficiency of capital will also depend upon the willingness of employers to organize. American employers have always been reluctant to organize for the purpose of dealing with labor. Most of their existing bargaining organizations are flimsy affairs with little discipline and meager resources. The success of collective bargaining in Sweden and the United Kingdom is largely attributable to the way in which the return on capital has been protected by large and powerful organizations of employers.

IX

The readiness with which an economy translates the results of technological progress into new investment, the resistance which it shows to depression, and the ease with which it recovers depend in large measure upon the willingness of individual enterprises to increase their expenditures for equipment and for the development of new products more or less regardless of the general business situation—to step out in advance of other concerns and make commitments. In other words, it depends upon the relative attractiveness of venturesome and daring production plans in comparison with cautious production plans. The dynamic influence of venturesome production plans has been underrated in recent economic analysis, largely because the contagious effect of investment by one firm in compelling offsetting investments by rivals has received little attention.

The government, through the way in which it raises its money, has wide discretion in determining the relative attractiveness of different types of production plans. This is especially true when the government

power is no longer shifting. It is to be observed also that the large wage increases between 1936 and 1937, when the hourly earnings of factory workers increased by 12 per cent, were not in the main directly produced by trade unions. In large measure they represented an unsuccessful effort on the part of employers to stop the spread of labor unions. As a matter of fact, the wage increases seem to have stimulated the growth of unions by convincing the men that there was a lot of easy money around which they might get by organizing. Some employers who gave a wage increase to prevent their men from organizing had to give a second increase after the men had formed a union.

takes such a large proportion of individual and corporate incomes as it now does. Taxes in recent years have been remarkably well designed to bear heavily on any enterprise which displays daring, which backs an innovation or an experiment, especially an experiment which is pretty certain to experience losses for several years. The loss carry-over provisions of the corporate income tax could be modified, for example, to facilitate substantially the accumulation of capital by new concerns. In times of poor economic visibility and rapid technological change, much is to be said for a flexible treatment of depreciation allowances. Enterprises should be encouraged to write off half of the cost of new assets during the first three or four years of their life. This would increase the subsequent tax liability of the concern, but it would make uncertain ventures less risky. A large reduction in the tax on that part of corporate profits spent for plant and equipment (the reverse of the undistributed profits tax) would help restore the practice of plowing back earnings—so important if new concerns are to furnish stiff competition for old ones and important in the case of all concerns in stimulating the kind of investment which starts expansion and improves the ability of the enterprise to attract funds from the outside. A similar principle might be applied to the personal income tax. In the case of this tax there is conflict between the community's interest in the principle of ability to pay and its interest in expansion. Stiff surtaxes greatly reduce the marginal efficiency of any investments made by large income recipients. These surtaxes are in conflict with prevailing theories of liquidity preference. It would not be necessary to repeal the surtaxes. The attractiveness of uncertain ventures to large income recipients (or even persons in the middle brackets), could be increased by a substantial reduction in the surtax on that part of income invested in non-refunding equities.[26]

X

The ability of the community to supply itself with enterprise will depend also upon the organization of the capital market. At the present time this is in a state of flux, partly because of recent legislation and partly because changes in the tax system require that machinery be developed for obtaining venture capital from income brackets which have provided little of it. It is important to realize that neither the volume of investment opportunities nor the volume of investment-seeking funds is fixed. Each is the result of discovery and of effort. It

[26] The effect of the tax upon production plans depends in substantial measure upon whether enterprises are discounting increases or decreases in taxes. Post-war adjustments will be greatly assisted if enterprises are discounting decreases in taxes. Certainly the prospect of tax reductions was an important stimulus to business during the five years following the First World War. If one may assume post-war federal budgets not in excess of 14 to 15 billion dollars a year, the prospect of reduction in taxes would be good.

takes work and money to find good credit risks which could use funds and to find people who might be persuaded to buy particular types of securities. Many men make their living by doing these things. How dynamic the economy is able to become will depend partly upon how good a job is done in adapting the machinery of the capital market to new conditions.

XI

To a very substantial extent, of course, the opportunities for investment will be affected by the policies which the United States elects to pursue toward the rest of the world after the war. If conditions are reasonably stable, opportunities will exist for large international movements of capital and for extensive investment on a broad scale. Indeed, the potentialities of this are enormous. Here we see perhaps more plainly than ever how dependent investment opportunity is upon policy, for the problem of providing the basis for large international capital movements which will greatly raise the standard of living of the entire world is, in the main, a political one.

XII

One may infer from this survey that the outlook for employment during the post-war generation is not necessarily dark. In fact, it may turn out to be distinctly good, especially in the event, by no means improbable, that the country is able to create favorable conditions for large capital exports.[27] But my purpose in this analysis has not been to speculate about the future, because anything can happen. Rather my purpose has been to focus your attention upon certain characteristics of our economy. The conclusion to which I invite your attention is that most of the variables which determine the amount of private employment and the rate of expansion are influenced within wide range by policies, public and private. This is true of the relation between costs and prices; of the way in which cost curves shift in response to changes in demand; of the quantity of resources, public and private, devoted to technological discovery; of the disposition to venture, and the relative preference for various types of production plans; of the position and income elasticity of the savings function. No fixed or inevitable values may be assumed for these determinants of expansion. Hence

[27] Should the defeat of Germany mean domination of Europe by Russia, the economic future of the United States will be determined in great measure by Russian economic and political policy. If American business men are sufficiently ingenious to develop a large market here for Russian goods and if Russia does not revive her policy of world revolution, the possibilities of a large and mutually advantageous exchange of goods between Russia and the United States are bright. The pre-war experience of Germany, the United Kingdom, and the United States indicates that trade need not be in the main between industrial and agricultural countries.

there is no fixed amount of investment opportunity, no fixed willingness to take chances, no fixed demand for goods or for people to make goods. All depend upon conditions, and all may be greatly influenced by policy.

Some of the policies which determine the volume of employment represent a deliberate choice between employment and something else. There may be a clash, for example, between the interest of the community in full employment and its preference concerning the distribution of wealth. Since tax changes which would raise the marginal return on investments by the well-to-do would facilitate the acquisition of large fortunes, the community may accept a limited amount of private employment in order to achieve a more even distribution of wealth.[28] The policies which represent a deliberate and informed choice between employment and something else are not our problem. Many of the policies which affect employment, however, are not intended to do so. The groups which produce the policies are too small to consider their consequences for employment and yet the total effect of the policies of thousands of organizations of business men and farmers, thousands of local unions, and many states, counties, and cities upon cost-price relationships and upon the opportunity to experiment and to introduce innovations is considerable.

Because many policies are pursued without regard to their effect upon the general level of employment, the persistence of unemployment cannot be counted upon to produce the changes in policies which are needed to increase employment. If the bargaining power of labor, for example, is too great in relation to the rate of technological discovery so that the investment function does not permit a satisfactory level of employment, there is no automatic change in policies to reduce the bargaining power of labor, to raise the rate of discovery, or to produce a shift in the propensity to save. These things *may* happen, but they cannot be counted upon to happen. In fact, the response of policies to unemployment may in the main be bad: unemployment may provoke a flood of attempts to protect markets by restrictions which narrow the area of innovation, cut the marginal return on investments, and produce unfavorable shifts in the schedule of liquidity preference. Numerous examples of this kind of response to unemployment can be gathered from the recent depression both in the United States and abroad.[29]

[28] One of the broadest conflicts in the community is the competition between the old and the new. Much intervention on behalf of the government is simply a way of protecting the old from the competition of the new. Of course, the farther the government goes in protecting the old from the new, the more it limits investment opportunity and, to that extent, employment. But most of the community may prefer less private employment to a faster rate of change.

[29] The most conspicuous illustrations can be drawn from the field of international economic policy, but many others could be cited.

If the level of employment is unsatisfactory from the standpoint of the community, who is to assume responsibility for seeing that policies are modified or broadened so as to permit the largest amount of employment compatible with the other interests of the community? To some extent the government can assume this responsibility. The government has three principal ways of affecting the general level of employment: (1) the method of correction, (2) the method of compensation, and (3) the method of stimulation.

The method of correction involves making changes in public policies or forcing changes in private policies in order to increase employment or, put in other words, altering the distribution of economic advantages in order to increase the total amount of income.[30] Many public policies—tax policies, regulation of security markets, price-pegging schemes—were adopted without an appraisal of their probable effect upon employment and even without a suspicion that there was a problem of maintaining employment. Recognition of the existence of such a problem may lead the community to prefer to revise many of its policies. The policy of correction would also involve the assertion of some public control over private policies. There are various ways by which the government might exercise such control, but on the whole the possibilities are limited because, in many cases, control cannot be accomplished without a large number of detailed regulations which would be impracticable to administer.

The method of compensation involves an attempt by deficit financing to offset the failure of private enterprise to provide a satisfactory amount of employment; note that I do not say "full employment." Strictly speaking, the method of compensation should not be used until the community has gone as far as it is willing to go in applying the policy of correction. Otherwise, the policy may divert the government from thoroughly exploring the possibility of enforcing changes in private policies that would raise the level of employment. In fact, the persistent use of the policy of compensation may stimulate a development of private policies that are unfavorable to employment. Why should an up-and-coming labor movement, for example, permit the demand created by public spending to produce more employment rather than higher wages?

The use of deficits to compensate for a chronic shortage of investment opportunities raises very different economic issues from those involved in the use of deficits in periods of depression when there are

[30] One might visualize as an ideal a central planning agency charged with the responsibility of reviewing the obstacles limiting the amount of enterprise and of estimating how much sacrifice by different groups would produce how much expansion in employment. These reports might be referred to representative agencies to determine which interests to sacrifice for the enlargement of income.

idle resources of all sorts. Although the tax expectations aroused by a persistent use of deficits do not necessarily reduce the marginal efficiency of capital, as a practical matter it is very difficult to prevent this effect. There are also likely to be important differences in the economic effects of public and private investment which prevent the former from being merely an offset to the latter. Private investment, being intended to yield a profit, represents an attempt to anticipate trends in consumer demand and thus to keep the pattern of productive capacity adjusted to the pattern of consumer demand.[31] To the extent that this happens, private investment tends to produce a rise in output and employment rather than in prices. Public investment, on the other hand, does not as a rule represent an attempt to adjust productive capacity to consumer demand. Hence, if public spending occurs on a large scale after plant is fairly well employed, its effect will be in the main to raise prices rather than to increase employment. Consequently, the policy of compensation seems to have a much narrower application than most of its proponents have assumed.

The method of stimulation involves expenditures by the government which are designed to produce favorable shifts in the private investment function. Expenditures on roads or air ports and, in some instances at least, on rivers and harbors are an example, but the outlay in fact may take a wide variety of forms. The support of agricultural or industrial research is an example. Note that the efficacy of the method of stimulation does not depend upon the expenditure's being financed by borrowing. The essence of the method is that a public expenditure (or loan) is creating a private investment opportunity which would not otherwise exist. The method is not a new one, but it is susceptible of considerable expansion.

XIII

This brief review of the possibilities of public policy leads one to the conclusion that the range within which the government can influence the level of employment is broad but, nevertheless, in a non-regimented economy, limited. Given a fairly rapid rate of technological change, a fairly even balance of power between employers and workers, and a well-organized capital market, the community with the help of the government may maintain a satisfactory level of employment. But we cannot be sure. This brings us to the final and most basic consideration. Both what the government needs to do and what the voters will permit the government to do depend in the last analysis upon the valuations

[31] How imperfectly even private investment accomplishes this result is indicated by the jerkiness with which growth occurs. Partly because the pattern of productive capacity does not accurately fit the pattern of consumer demand (and partly because of the nature of costs), the economy during periods of expansion usually presents a mixture of unemployment and inflation.

which individuals place upon group interests and common interests.[32] There are two ways in which groups may advance their interests. One is based upon a high valuation of one's special interests, and involves improving the bargaining position of the group for the purpose of getting a larger share of an income flow with little regard to the effect upon the size of the total income flow. The other is based upon a high valuation of general interests and involves restraint in pressing special claims which conflict with general interests.

It is not for the economist *qua* economist to quarrel with the valuations which individuals and groups place upon their interests. He is, however, within his scientific rights when he points out that these valuations have profound economic effects. They determine both the methods of production which it is possible to use and the quantity of goods that can be produced. High valuations of special interests can throttle production and render the government and every one else incapable of providing a satisfactory level of employment. High valuations of common interests will produce public and private policies that will prevent there being a problem of long-term unemployment.

Is it at all thinkable that groups of workers, employers, and farmers in dealing with one another and in pressing claims for legislation will be limited or guided to a substantial extent by concern for the national income? Or as these groups become more and more highly organized and more and more conscious of their particular interests, will they become less and less disposed to place high valuations on common interests? No one knows. Larger units of decision would help. Wage policy, for example, which is now made by groups too small to feel much responsibility for the general level of employment, might be made by units such as the United States Chamber of Commerce and the National Association of Manufacturers on the one hand and the American Federation of Labor and the Congress of Industrial Organizations on the other.[33] Perhaps new machinery must be invented in order that all groups may agree on the restraints that shall be placed upon their special interests and in order to make possible new ways of promoting common interests.

A lively concern for common interests by well-organized and self-conscious special groups may seem a utopian dream; but in an economy in which the policies of government and of large private groups determine employment, what substitute is there for it? The possibilities of

[32] It is not intended to deny that the valuations of the individual member of a group are molded largely by the leaders of the group. Consequently, the kind of valuations of group and common interests which emerge are determined in large measure by the kind of men who lead groups.

[33] In Sweden the recent depression produced rudimentary beginnings of a national wage policy made by the federation of employers and the federation of unions. See P. H. Norgren, *The Swedish Collective Bargaining System*, p. 303.

modern technology are tremendous. If these possibilities can be realized, no one can doubt that we are on the threshold of gaining a far better standard of living than man has ever known. Nothing can prevent us from realizing the possibilities of modern technology except unwillingness to place a high valuation upon certain common interests—particularly our interests in enterprise, experimentation, innovation. Never have the rewards of a broad view of common interests been more attractive. Never has the folly of narrowly pressing special claims been greater. The economic future of our country and of the world depends upon the clarity with which this is seen.

STATISTICAL INVESTIGATIONS OF SAVING, CONSUMPTION, AND INVESTMENT[1]

By MORDECAI EZEKIEL

I. SAVING, CONSUMPTION, AND NATIONAL INCOME

This study deals with the functional relations between national income, consumption, saving, and private investment, as indicated by statistical analyses of their behavior in the United States over the past two decades.[2] This paper considers income, saving, and consumption relations. A second paper will present the income and investment relations, and will compare them with the results shown here.[3]

The major magnitudes which are involved in this analysis are illustrated diagrammatically in Figure 1. Column I of this diagram represents the income received by producers of goods and services, after deducting costs of the raw materials consumed by producing units. The upper portion represents consumers' goods and services, the lower

[1] This report covers one of a series of studies under way during the past several years on the general interrelations of agriculture and industry. These studies have led to the conclusion that many farm problems, such as restricted domestic markets, excess farm population, and technological displacement, could find lasting solution only in reasonably full industrial production and employment. This has led in turn to reconnaissance studies in the field of industrial economics to determine basic reasons for chronic industrial unemployment and low production and to develop possible programs of action to correct those situations. The author feels that perhaps three-quarters of the farm problem lies in this field of industrial economic policy, and that programs or actions of farmers themselves can do little to correct this phase of the farm problem. Hence this exploratory work.

[2] I am indebted to John Maynard Keynes, Alvin Hansen, Gerhard Colm, Walter Salant, Hans Neisser, and A. Smithies, who read the study in manuscript and made many valuable suggestions. Credit is also due to Virginia D. Reeve for carrying through the compilation and statistical analyses of the materials for this study; for bringing together and abstracting the bibliographical material; and for preparing the first draft of the portion of the study dealing with the consumption function.

[3] Previous studies of the relations of saving, consumption, investment, and income have been less inclusive than the present study, though many of them have covered data from other countries as well as the United States. See J. M. Keynes, *The General Theory of Employment, Interest, and Money* (New York, Harcourt Brace, 1935), pp. 101-04, 127-28; R. and W. M. Stone, "The Marginal Propensity to Consume and the Multiplier, a Statistical Investigation," *Rev. of Econ. Studies,* Oct., 1938; Elizabeth W. Gilboy, "The Propensity to Consume," *Quart. Jour. of Econ.,* Nov., 1938; J. J. Polak, "Fluctuations in United States Consumption, 1919-1932," *Rev. of Econ. Stat.,* Feb., 1939; J. Tinbergen, *Statistical Testing of Business Cycle Theories;* Part II, *Business Cycles in the United States of America, 1919-32* (Geneva, League of Nations, Econ. Intelligence Serv., 1939); and Alvin Hansen, *Fiscal Policy and Business Cycles* (New York, Norton, 1941), chap. 11, pp. 225-50, with appendix by P. A. Samuelson.

portion, producers' goods and services. Both include goods and services produced by public agencies. The portion of producers' goods and services above the zero line represents net capital formation. The portion below the line represents producers' goods used for the replacement of worn-out or obsolete equipment.

Column II represents all expenditures by final purchasers of goods and services, divided into expenditures for consumption and expenditures for capital formation and maintenance. Since the amounts spent for final goods and services by the buyers must exactly equal the amounts received from the sale of final goods and services by the seller,

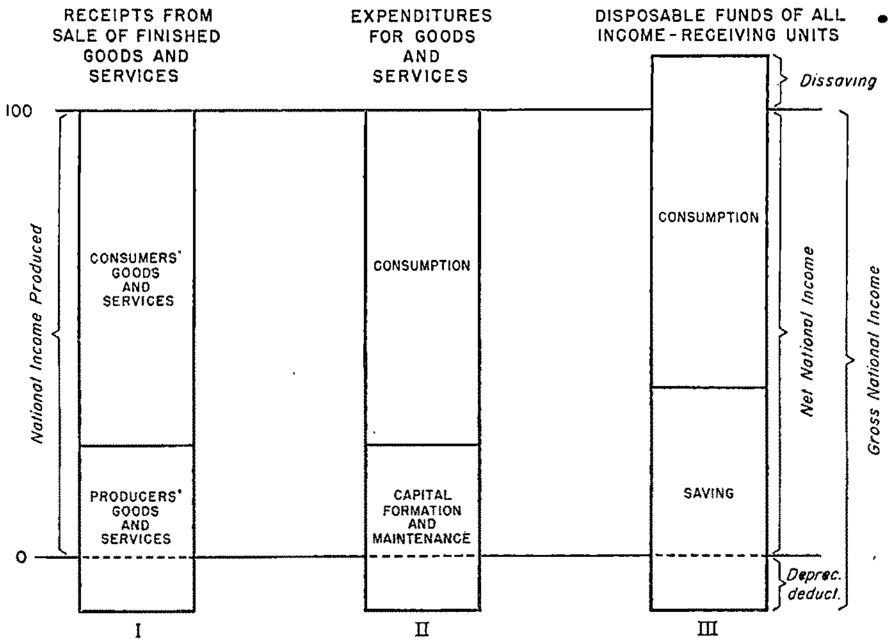

Fig. 1—Concurrent Relations of Income, Consumption, Saving, and Investment.

the two sections of Column II are the same as the two sections of Column I.

Column III represents the disposable funds received by all income-receiving units—business, personal, and governmental. The amounts set aside as deductions for depreciation and obsolescence are represented by the portion of the bar below the zero line. The upper section of Column III represents the net income used for consumption; the lower portion down to the zero line, represents the net income set aside as saving. Gross saving available for investment includes both this net saving (above the zero line) and the depreciation and depletion deductions (below the zero line). The net saving section of Column

III includes both private saving and business saving recognized as such. If businesses make further real savings by actually spending on replacement of depreciation and obsolescence less than is set aside as reserves for that purpose, then a portion of the section below the zero line is added to the funds available for new investment.

Figure 1 is drawn to illustrate the situation when gross saving exceeds the amounts actually spent for capital formation and maintenance, including capital formation financed by public expenditures. This difference will hereafter be referred to as the "gap." As shown in the figure, funds available for consumption (the upper portion of Column III) are just as large as expenditures for consumption (the upper portion of Column II). This is made possible only by adding dissavings to the disposable funds. These dissavings include government expenditures in excess of government receipts other than for capital formation, increases in consumers' credit and other borrowing of new funds or drawing down of old savings for consumption. Dissaving is represented by the portion of Column III above the 100 line. The amount of the dissaving is precisely equal to the gap between gross saving and gross capital formation and maintenance. If for any reason the amounts added to disposable income fail to equal the gap, then expenditures for goods and services will decline, fewer goods and services will be produced and sold, national income will fall, and net income received by individuals and concerns will decline. It is only when the amounts added to disposable funds precisely equal the gap that production and income can be maintained at the levels indicated.[4]

Basic Hypotheses

It is desirable to state as clearly as possible the hypotheses which it is proposed to test, and the way in which the data are to be organized as a basis for those tests. The hypotheses are:

1. Saving is a function of the current level of income, increasing as the level of income increases, but at a higher rate.

2. Consumption is a function of the current level of net income, increasing as the level of income increases, but at a lower rate than income.

3. The patterns of thrift, expenditure, and consumption at any given level of income are habitual patterns of action, changing only gradually in time, so that changes in current income received by each group produce reasonably consistent changes in total consumption and saving.

[4] This is obviously an oversimplified statement of the saving-investment balance as developed by Keynes and others.

Statistical Measures Employed

The statistical measure used for the level of income is generally the estimate of gross national income, without correction for changes in price level. For many elements in income and expenditure, dollars are a more unvarying measure than is "real production."[5] Where consumption is related to income, the net national income is used since credits to depreciation and depletion reserves presumably will not affect consumer expenditures. Direct annual data on saving of satisfactory accuracy are not available. The Brookings studies[6] and Dr. Kneeland's estimates based on the national survey of consumers' expenditures[7] have provided estimates of private saving for two given periods, 1929 and 1935-36. In the upper income brackets these estimates are based on very fragmentary reports. Other studies have extended these estimates over longer periods, on the assumption that the proportion saved at each income level was a constant.[8] The use of that assumption makes it impossible to test its accuracy from the resulting estimates. Changes in the comparability of income-tax reports and lack of adequate current information on the distribution of incomes below the income tax levels further reduce the value of these annual estimates. Another approach has been to build up a synthetic estimate of saving from reports of insurance companies, savings banks and other institutions receiving savings, plus estimates of direct investment by the saver.[9]

Other estimates of saving have been based on the uses made of saving, as recorded in various expenditures which use up or offset current saving.[10] That is the method used in the preparation of the savings series employed in this study, as given in detail subsequently. In effect, this method estimates the volume of saving (as shown in Column III of Figure 1) by calculating the volume of capital formation and maintenance (shown in Column II) and adding to it the volume of dissaving (at the top of Column III).

[5] As is indicated subsequently, tests were also run in some of the analyses using deflated figures.

[6] Maurice Leven, Harold G. Moulton and Clark Warburton, *America's Capacity to Consume* (Washington, Brookings Institution, 1937).

[7] National Resources Committee, *Consumer Expenditures in the United States* (Washington, Government Printing Office, 1939).

[8] Clark Warburton, "The Trend of Savings, 1900-1929," *Jour. of Pol. Econ.*, vol. xliii, 1935, pp. 84-101.

[9] William H. Lough, *High Level Consumption* (New York, McGraw-Hill, 1935), pp. 280-307; and R. W. Goldsmith and Walter S. Salant, *Studies in Income and Wealth*, vol. iii, "The Volume and Components of Saving in the United States, 1933-37," pt. iv, 1939.

[10] Testimony by Lauchlin Currie and Alvin Hansen, Hearings before the Temporary National Economic Committee, pt. 9, "Saving and Investment" (Washington, Supt. Docs., 1940), pp. 3495-3559. Oscar L. Altman, "Saving, Investment and National Income," *T.N.E.C. monog. no. 37* (Washington, Supt. Docs., 1941).

These various measures of saving yield estimates which vary not only in absolute amounts, but also sometimes in direction of movement from year to year. In view of this weakness of the basic data, the conclusions must be regarded as showing general relations rather than precise measurements of facts.

The data used in the independent study of consumption are the latest estimates by Kuznets.[11] They are built up to some extent independently of the series measuring saving.

The Data on Saving

The most recent estimates of total saving, as shown by the offsets to saving series, are shown annually in Table I and quarterly in Table II.[12] The component elements of these data are as follows:

1. Expenditures for new durable producers' goods including plant and equipment. These data are built up from separate estimates for many individual industries.[13] (Various minor revisions made subsequently in the over-all figures have not as yet been carried back to these separate estimates.)

2. Expenditures for the increase (or receipts from the decrease) of the quantity of products in inventories.

3. Expenditures for new housing and other non-industrial construction.

4. Expenditures by consumers for other durable consumers' goods in excess of purchases paid for from current incomes. This definition excludes from saving expenditures for consumers' durables covered from current budgets or liquid funds of consumers, and includes only that part which is financed through net additions to consumers' credits. In periods when repayments exceed new borrowings, this results in a negative figure.

5. The net balance of buying power from foreign debits, for exports and intangibles, in excess of corresponding foreign credits, excluding gold and specie movements. These net foreign balances measure the extent to which incomes in this country were maintained by our

[11] Simon Kuznets, *National Income, 1919-38*, Occasional Paper No. 2, Nat. Bur. of Econ. Res., Apr., 1941.

[12] The annual data were first developed by Dr. Lauchlin Currie, formerly of the Federal Reserve Board, and were presented to the Temporary National Economic Committee on May 16, 1939 (*loc. cit.*). They are based in part upon estimates of new durable goods purchased annually for U.S. consumption calculated by George Terborgh, Federal Reserve Board. The data presented here are revisions of that earlier data. The monthly series from which the quarterly series is derived was developed subsequently by V. Lewis Bassie in the Division of Industrial Economics, Department of Commerce, under the direction of Dr. R. V. Gilbert. Acknowledgment is due these gentlemen and these agencies for permission to use these data.

[13] George Terborgh, "Estimated Expenditures for New Durable Producers' Goods," *Federal Reserve Bulletins* for Sept., 1939, Feb., 1940, and Feb., 1941.

TABLE I—GROSS NATIONAL INCOME AND INCOME-PRODUCING EXPENDITURES THAT OFFSET SAVING, BY YEARS, 1921–40
(in millions of dollars)

Year	Gross National Income	Income-producing expenditures that offset saving							
		Total	Equipment	Plant	Housing	Consumers' Credit	Net Foreign Balance	Inventories	Government Net Contribution
1921	63,751	9,548	2,758	2,475	2,313	−20[a]	1,327	47	648
1922	64,295	11,870	3,140	2,644	3,801	730[a]	293	514	748
1923	74,784	16,990	4,622	3,280	4,821	1,046[a]	−91	2,964	348
1924	75,161	13,279	4,343	3,307	5,229	311	530	−1,056	615
1925	79,686	17,032	4,598	3,591	5,750	842	199	1,523	529
1926	84,813	16,760	4,941	4,185	5,535	648	−39	1,246	244
1927	82,708	15,328	4,644	4,133	5,357	217	301	308	368
1928	86,167	16,039	4,743	4,103	5,019	821	518	102	733
1929	89,984	17,280	5,590	4,559	3,764	987	446	2,713	−709
1930	79,764	9,709	4,568	3,769	2,292	−613	632	−1,190	251
1931	63,901	5,360	2,940	2,182	1,734	−1,128	162	−2,278	1,748
1932	47,446	2,025	1,606	1,197	713	−1,485	132	−2,018	1,880
1933	46,217	3,225	1,503	866	461	−140	205	−1,598	1,928
1934	55,839	8,530	2,306	1,131	521	415	459	270	3,428
1935	61,681	10,312	3,092	1,260	918	858	181	273	3,730
1936	71,400[a]	14,281	4,134	1,651	1,536	1,355	−179	1,447	4,337
1937	79,400[a]	14,211	5,280	2,294	1,910	891	−5	2,749	1,092
1938	70,800[a]	8,457	3,618	1,776	1,817	−1,400	1,030	−758	2,374
1939	75,710[a]	15,165	4,289	1,852	2,270	907	781	1,415	3,651
1940	82,000[a]	17,580	5,751	2,360	2,431	1,014	1,417	733	3,874

[a] Estimated.

Note: For sources and methods, see statement submitted to the Temporary National Economic Committee by Lauchlin Currie on May 16, 1939 (*loc. cit.*). See also, Oscar L. Altman, *op. cit.*, Table 2, p. 14; and page 26, footnote 12 of this text.

receiving more from sales abroad than we paid back for purchases from abroad. These excess foreign payments, in the form of gold movements, of net credit extensions by us, or otherwise, provide a market for domestically-produced goods the same as if they were purchases of consumers' or durable goods by domestic purchasers.

6. The final item in the offsets to saving series is the government net contribution. This represents in general the excess of those public expenditures (federal, state, and local) that add to disposable private income over those tax receipts of the type that reduce disposable private income. These expenditures have been designated "income-increasing disbursements" and include:

a. Direct payments of income to individuals.
b. Purchases of materials and supplies.

c. Outlays on public works other than those made in the form of direct payments of income.
d. Loans to enable others to carry out new activities which result in the payment of income.

Thus gross public expenditures are adjusted to eliminate certain items designated as "non-income-increasing disbursements," such as refinancing mortgages or retiring public debt, since these are not likely to result in additions to consumption expenditures by the recipient. Government receipts have also been adjusted to eliminate estate and gift taxes, since such taxes are not likely to lower the level of consumption of the taxpayer.[14]

The sum of all these items, representing all income-producing expenditures other than for consumers' goods purchased from current incomes, is taken as the measure of saving and of investment. Actually, these items include two which do not constitute investment in the ordinary sense of the term.

The data on saving differ slightly from the simplified presentation of Figure 1. That diagram included under capital formation that portion of government construction which is financed out of deficit expenditures, and included under dissaving only the portion of the "net government contribution" which goes for consumer goods. The statistical data modify the arrangement slightly by including all expenditures from the net government contribution under dissaving. This would involve changing Figure 1 to split the lower section of Column II into two sections, one at the bottom representing "usual capital formation and maintenance," and a section above it representing "capital formation and maintenance covered by government deficits." The gap would then be the difference between saving and the lower (usual) section of capital formation and maintenance. Increases in the volume of consumer credit, and public borrowing for other than construction purposes, represent dissaving by the borrowing individual or government unit, and are thus offsets to saving by others.

The measure of saving used accepts the Keynesian definition that over any given income period saving and investment must be equal. The important question, however, is not whether saving equals investment in this accounting sense, but at what level of income and employment the two are equal. The way in which saving is at all times kept equal to investment determines whether income is rising, falling, or maintaining the same level. For example, if the individuals in the nation decide to save a certain portion of their expected income, but

[14] Martin Krost, *The Measurement of the Net Contribution of the Federal Government to National Buying Power* (Washington, Federal Reserve Board, Aug. 16, 1938, mimeo. pub.).

not all of the portion which they plan to save gets used somewhere to purchase goods and services, the level of income will fall. Since the total income of the nation in a given period is just large enough to take the current output off the market, and some of the intended output will not be salable at the existing prices, business enterprises will suffer losses and payrolls will be reduced. Contraction continues until the nation as a whole is forced to reduce its saving to an amount that can currently find investment outlets. Conversely, if the individuals of the nation plan to make new investments in excess of the amounts which as a whole they plan to save, expansion takes place. The injection of purchasing power through the creation of bank credit or in other ways causes demands to rise. Business enterprises increase operation, and production and incomes rise until the increased income of the nation as a whole can provide the extra saving needed for the new investment.

The annual amounts of saving, measured by the offsets, correspond fairly closely with the annual amounts of gross capital formation. This is evident when the two are charted together, as shown in Figure 2. Gross capital formation includes expenditures for public construction, while the saving figure includes instead the net contribution of government (explained above, page 28). The two series also differ in other respects.[15]

The Functional Relation of Saving and National Income

We can now proceed to test hypothesis 1, that saving is a function of national income. The simplest approach to this relation is presented in Figure 3. Here quarterly totals of the monthly data on saving are plotted on a time chart, in comparison with the quarterly totals of national income.[16] The data for this figure (Table II) are available only since 1929. The close correspondence between the two series is at once evident. The two rise and fall together, and the turning points are fairly close.

At the low points—1932-33 and 1938—saving reached its low while income was still declining, and turned up again as soon as the *rate of decline* in income began to slacken off. At the high, in 1929, saving also turned downward somewhat ahead of income, with the rate of

[15] The data shown in this figure are taken from Altman's monograph, *op. cit.*, pp. 13-14. See also Appendices XVII and XVIII, pp. 125-26, for a detailed breakdown of the two series.

[16] The quarterly totals of national income are derived from the Monthly Income Payments series of the Department of Commerce plus an adjustment for business savings. Data for national income produced or for gross national product are not available on a monthly basis. Since revisions in the Department of Commerce series are being undertaken, and since the estimates for quarterly business savings are necessarily rough, these totals are only rough approximations.

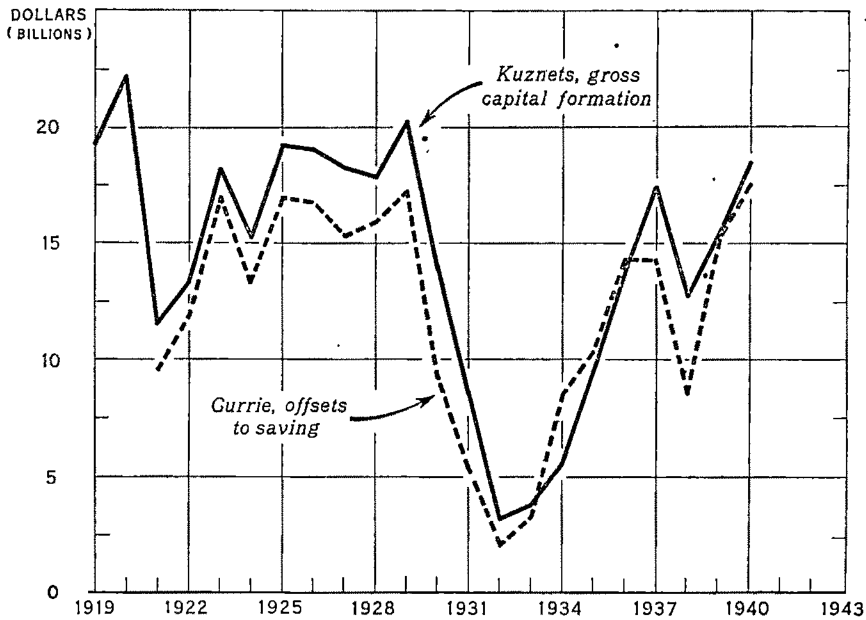

FIG. 2—Estimates of Gross Saving, 1919-40.

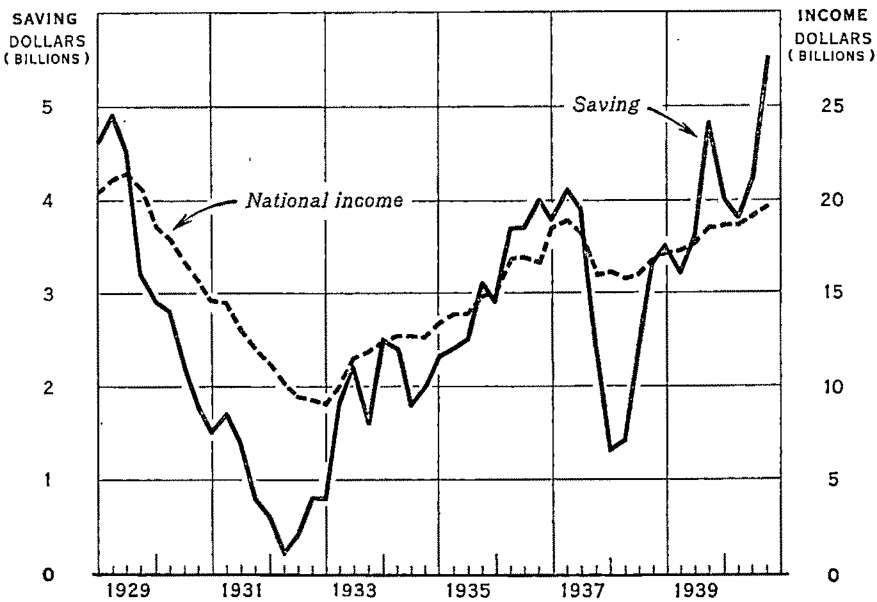

FIG. 3—Saving and National Income, 1929-40 (adjusted for seasonal variation).

decline in saving greatly accelerated as soon as income began to fall. Annual data for saving are available back to 1921. The relation of changes in saving to income from these annual data are shown in Figure 4. Here the gross national income is used.[17] Over the two decades

TABLE II—TOTAL OFFSETS TO SAVING AND NET NATIONAL INCOME, BY QUARTERS, 1929–40
(adjusted for seasonal variation)
(in billions of dollars)

Year and Quarter		Offsets to Saving[a]	Net National Income[b]	Year and Quarter		Offsets to Saving[a]	Net National Income[b]
1929	1	4.6	20.4	1935	1	2.3	13.3
	2	4.9	21.1		2	2.4	13.8
	3	4.5	21.4		3	2.5	13.8
	4	3.2	20.5		4	3.1	14.8
1930	1	2.9	18.7	1936	1	2.9	15.0
	2	2.8	17.9		2	3.7	16.8
	3	2.2	16.7		3	3.7	16.8
	4	1.8	15.7		4	4.0	16.6
1931	1	1.5	14.7	1937	1	3.8	18.5
	2	1.7	14.4		2	4.1	18.9
	3	1.4	13.1		3	3.9	18.2
	4	.8	12.1		4	2.4	15.9
1932	1	.6	11.2	1938	1	1.3	16.1
	2	.2	10.1		2	1.4	15.7
	3	.4	9.4		3	2.4	15.9
	4	.8	9.3		4	3.3	16.7
1933	1	1.0	9.1	1939	1	3.5	17.2
	2	.5	10.0		2	3.2	17.3
	3	.2	11.5		3	3.6	17.7
	4	1.6	11.8		4	4.8	18.5
1934	1	2.5	12.4	1940	1	4.0	18.7
	2	2.4	12.7		2	3.8	18.6
	3	1.8	12.7		3	4.2	19.1
	4	2.0	12.6		4	5.5	19.6

[a] For source see page 26, footnote 12.
[b] For source see page 29, footnote 16.

shown, saving and income fluctuate closely together. The peculiar lag in the relation which appeared in Figure 3 is less evident in Figure 4, apparently being concealed in the annual averages except in 1932-33.

The general relations shown in Figures 3 and 4 can be reduced to a more definite functional relation by correlating saving with income. Using annual data to simplify the presentation, the general functional

[17] The gross national income equals the net national income plus business deductions for depreciation and depletion. For derivation of this series, see Altman, *op. cit.*, p. 14.

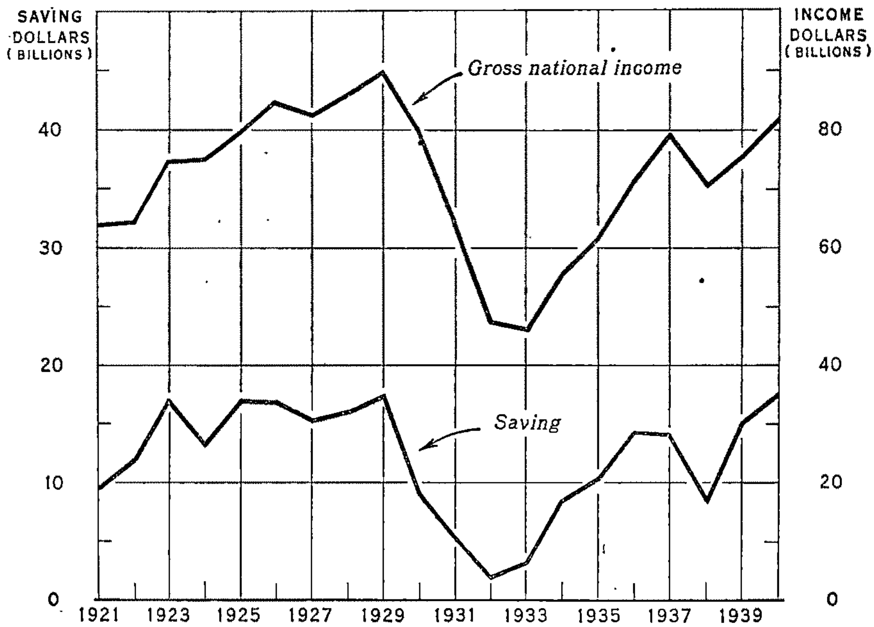

FIG. 4—Saving and Gross National Income, 1921-40.

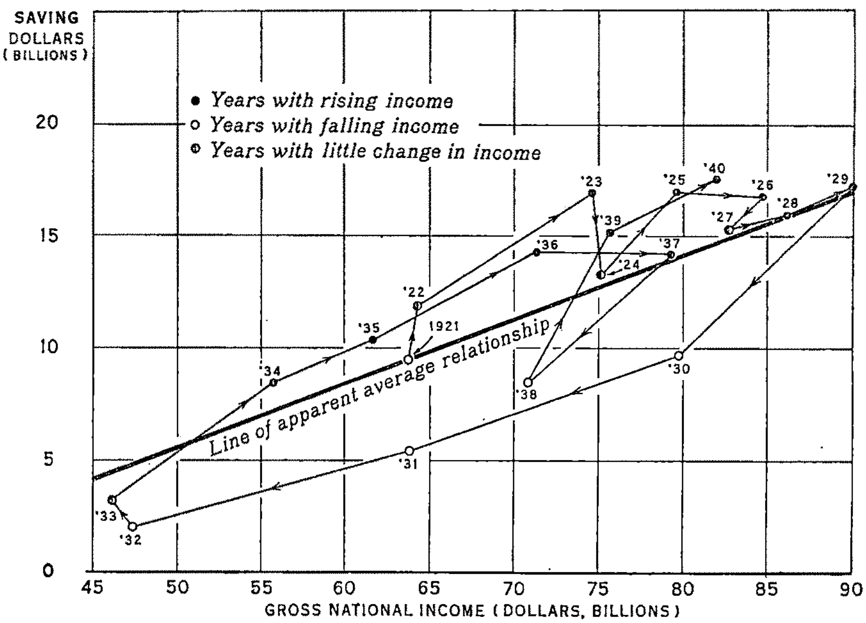

FIG. 5—Correlation of Saving and Gross National Income, 1921-40.

relation is shown in Figure 5. Here the dollar amount of saving is plotted against the dollar amount of gross national income, with a single dot representing each year. Successive years are connected by a light line, to indicate a trend if one is present, with arrows indicating the direction of the line in time.

Superficial examination of the chart indicates a marked functional relation between income and saving, with the saving for any given income falling generally within a zone of not wider than 8 billion dollars. There is no definite sign of a long-time secular trend, since the level of the data for 1934 to 1940 coincides almost exactly with the comparable level for 1921 to 1926. A continuous heavy line has been drawn in to indicate the apparent average saving corresponding to a given income. Closer examination of Figure 5 reveals an interesting fact. All the years where saving was less than would be expected for the given income (as shown by the average line) were years where the time arrows point to the left. That is, they were years with an income lower than that of the preceding year. The years when saving was higher than average, for the given income, were years of *rising* income. Years such as 1924 and 1927, with income little changed from that of the preceding year, fell intermediate between the upper and lower groups. This relation is brought out more clearly by using solid dots to designate the years of rising income, hollow dots for years of falling income, and dots half hollow and a half solid for years with little change. The way in which 1938, with a sharp fall in income, drops to the lower group is quite striking. Fulcher, in a recent study of the savings of individuals,[18] also noticed this difference in the level of the regression line in certain years, but explained it by saying "the urge to save seems to have been greater during 1933-36 than during 1926-32."

It seems clear from this superficial examination that the amount of saving is influenced not only by the size of the national income, but also by the direction of its change. Saving in years of rising income apparently usually runs about 5 billions higher than saving in years of falling income. This suggests a persistence in habits of consumption. Apparently the first effect of a rise or fall in income is to increase or decrease saving. It may be that only after that rise or fall in income has persisted for a time does consumption respond, so that a major portion of the higher or lower income becomes reflected in higher or lower consumption expenditures. This hypothesis is consistent with the facts

[18] Gordon S. Fulcher, "Annual Savings and Underspendings of Individuals, 1926-37," *Rev. of Econ. Stat.*, vol. xxiii, Feb., 1941, pp. 34-35. The diagram in Kalecki's analysis of investment and income is also similar. See Michal Kalecki, *Essays in the Theory of Economic Fluctuations* (London, Allen and Unwin, 1939), p. 71. He made an adjustment for a time lag, relating income of the present year to two-thirds of investment for the present and one-third for the preceding year.

shown in Figure 5 and also with the peculiar type of lag previously pointed out in Figures 3 and 4.

It appears superficially from Figure 5 that the level of saving for any given income is influenced only by whether income is going up or going down, regardless of how fast or slow it is rising. The data for 1928 and 1929, however, with only a moderate rise in income and with saving somewhat below what might be expected from the other rising years, suggest that the rate of increase may also be an influence. The effect of the rapid rise in stock market valuations and of large capital gains realized or imputed may also have been a factor in 1928 and 1929.[19]

The hypothetical relationship with which the data most closely conform can be tested statistically. Three alternative hypotheses may be stated:

1. That there are separate functions for the relation of saving to income in years of rising and falling income, with different slopes for each relation.

2. That there is a constant difference between saving in years of rising and falling income, but that the slopes of the curves are the same for both relations.

3. That the difference between saving in years of rising and falling incomes is a function of the amount of change in income from the preceding year to that year.

The consistency of the data with these three hypotheses was tested, both with and without an allowance for a trend in the propensity to save. In both cases the analysis based on the third hypothesis was found to be the best.[20] The relation between national income and saving, however, came out much the same regardless of which of the three hypotheses was employed in determining it.[21]

[19] See J. M. Keynes, *op. cit.*, p. 319; also O. L. Altman, *op. cit.*, p. 9.

[20] The results of the analyses according to the three hypotheses were as follows:

Per cent of variance in annual saving explainable in terms of the factors considered (adjusted coefficient of multiple determination, $\bar{R}^2_{1.23}$)

Hypothesis tested	Without trend allowance (%)	With trend allowance (%)
Hypothesis 1	84.1	85.6
Hypothesis 2	84.9	86.3
Hypothesis 3	89.2	95.1

Tests of statistical significance show that a superiority of hypothesis 3 over hypothesis 2 as great as shown here would be unlikely to be secured unless there were a real difference in the underlying relationship. Only in one test out of six, on the average, would as great a difference as this be found, if the data were true random samples drawn from the same universe. (For the significance of such sampling criteria with time series analyses, see the author's *Methods of Correlation Analysis* [New York, Wiley, rev. ed., 1941], chap. 19.)

[21] The relevant net regressions were as follows, for the average difference in saving for a one-billion difference in gross national income:

All of the analyses agreed in showing that there was a significant change in the propensity to save during the period, declining to a low during the early thirties, and then turning up again. The analysis selected as the best (the third assumption plus a trend factor) showed a slight but distinct curvilinearity in the relation of saving to income. With higher and higher incomes the additional amount of saving per billion of additional income showed a slight but distinct increase.

These final results are shown in Figure 6, together with the data from which they were computed. The three factors shown explain 96 per cent of the annual changes in saving during the period, and estimate saving for each year with an adjusted standard error of estimate of only 974 millions of dollars.[22]

Figure 6 shows that with each additional billion dollars of gross national income, saving is increased by 265 million dollars on the average, but is ordinarily increased (or decreased) further by 230 million dollars for each billion dollars that income rises above (or falls below) the income of the preceding year. In the first year after gross national income increased by one billion dollars, then saving would usually increase by 495 million dollars while consumption expenditures would increase by only 505 millions. If income remained the same next year, in the second year after that billion-dollar increase consumption expenditures would rise by a further 230 millions and saving would decline an equal amount. The relation of income to saving thus has a dynamic as well as a static component.[23]

Hypothesis 1. 257 millions (when income is rising)
287 millions (when income is falling)
Hypothesis 2. 297 millions
Hypothesis 3. 281 millions

In each case these are the net changes found to be associated, while holding constant the other factors (but not including trend). When trend was also allowed for, the net relation (for the third hypothesis) was found to be a difference of 265 millions in saving for each billion in gross national income.

[22] The exact values were: $\bar{P}^2_{1.2345} = 0.959$; $\bar{S}_{1.2345} = 974$ millions.
The linear regression equation determined was

$$X_1 = .265\,X_2 + .230\,X_{2_{(1-0)}} - .797t + .032t^2 - 3.112.$$

An analysis using as the dependent variable saving a percentage of income and substituting the annual percentage increase or decrease in income gave slightly better results than the one shown here. The difference, however, was not significant. Consequently, the simpler analysis is shown here. An analysis using data corrected for price and population changes gave a coefficient of multiple determination ($\bar{R}^2_{1.2345} = 0.948$) lower than the analysis pictured in Figure 6 and discussed in the text.

The curvilinear net regression of saving upon income, as shown in the upper section of Figure 6, is consistent with the corresponding net regression as determined from the analysis based upon the percentage of income saved. In so far as the data charted in Figure 6 are concerned, however, the increase in correlation obtained by using the curve instead of a straight line has no statistical significance.

[23] W. S. Salant in *The Magnitude of the Recovery Problem* (mimeo. pub., Dept. of Commerce, 1940), allowed for this dynamic element by introducing the annual change in

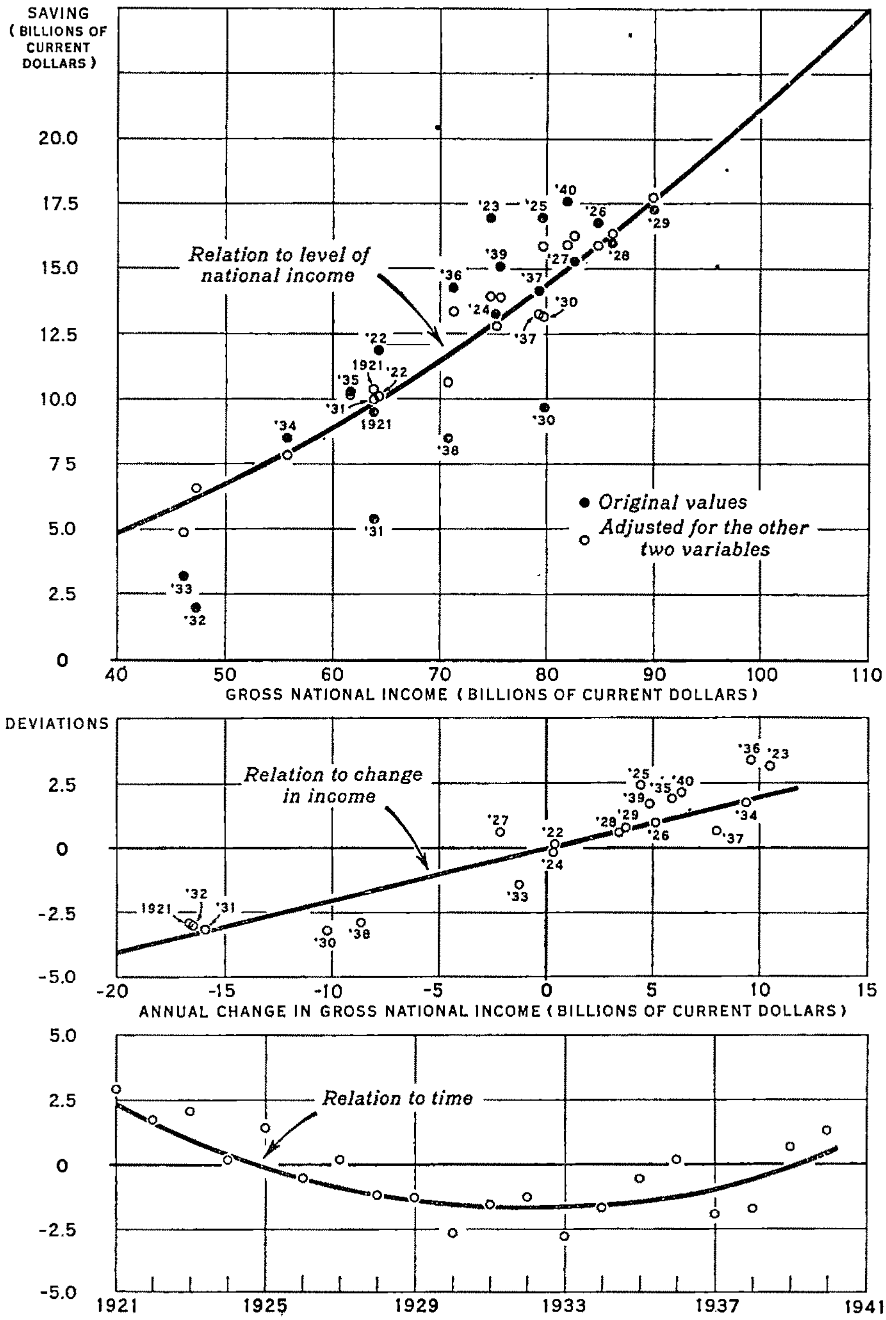

FIG. 6—Factors Relating to Saving, 1921-40.

With respect to this dynamic factor in saving (and to similar dynamic factors in investment, which will be developed in the second paper of this series), Keynes comments:

> I have endeavored to deal with a good many of the sort of problems you have under consideration by regarding the multiplier during a dynamic period as being lower at first when there is an unforeseen increase in permanent investment with a subsequent return to its normal figure. This may be important in time of war, when the first phase may be prolonged almost indefinitely through the inability of supplies of consumers' goods to respond to increased demand.
>
> For when there is an unforeseen increase in permanent or *quasi* investment, it is for a time, and perhaps for a long time, physically impossible for the increased purchasing power of the public to result in increased consumption, however much they may desire this. For there will be no increase of consumers' goods available except to the extent that stocks can be drawn upon. So that the purchasing power has either to spill itself in higher prices or be accompanied by a change in the propensity to consume which diverts more of it for the time being into saving.[24]

The relation of changes in the income level to saving—the dynamic factor—also raised an interesting question as to the significance of the consumption-saving patterns shown by the Brookings and the National Resources Committee estimates. The latter, in particular, are based upon 1935-36 data. In those years (note Figure 6) the *increase* in income was large, and about 2 billions of the saving was explained by that increase. Presumably this was distributed through the consumption and saving of the various income classes. When the 1935-36 distribution is used to estimate probable saving and consumption at still higher incomes, this dynamic factor may be intensified. The Kneeland estimates may therefore not serve as a safe guide to the probable level of saving when a given level of income is maintained statically, but only when that level is being reached on a forward movement. Direct comparison of the Kneeland estimates with the estimates of saving based upon the analysis above do not, however, support this suspicion that the Kneeland estimate is biased upward for static conditions.

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income as a factor in a statistical analysis of gross capital formation and gross national product. So far as is known, this is the only case prior to the present study where the dynamic factor was explicitly allowed for in this way. As suggested by Salant in a letter to the author, the weighting technique used by Currie (see Hearings, *op. cit.*, p. 3536) and Kalecki (*op. cit.*, p. 73) was a rougher way of taking into account the dynamic element. The two methods are identical mathematically in the sense that one form can be transformed into the other. G. Colm and F. Lehmann, in their article "Public Spending and Recovery," *Social Research*, May, 1936, pp. 129-66, also assume a changing propensity to save in their statistical analysis. In their attempt to measure the primary and secondary effects of public spending leakages have been assumed as decreasing from 50% to 33⅓% (see p. 143).

[24] See also, Keynes, *op. cit.*, p. 125, and D. H. Robertson, "Notes on Mr. Keynes' General Theory of Employment," *Quart. Jour. of Econ.*, 1937, p. 168.

The curvilinear relation between national income and saving (with changes in the level of income held constant) deserves special comment. As plotted in the upper portion of Figure 6, this shows a relation as follows:

Level of Gross National Income (in billions)	Corresponding Level of Saving with National Income Unchanging from Year to Year[a]	
	Amount (in billions)	Per cent of total
45	5.75	12.8
55	7.75	14.1
65	10.20	15.7
75	12.80	17.2
85	16.00	18.8

[a] Holding trend constant at the 1939 level.

Apparently the normal addition to saving for each billion added to the static level of gross national income shifts from about 200 millions between a 45- and a 55-billion level to about 320 millions between a 75- and an 85-billion level. These normal saving levels are also of interest for the relative amount.

The trend shown in the lower section of Figure 6 indicates that the propensity to save declined steadily during the 1920's and turned up slightly in the late thirties.[25] With the same national income, saving in the early thirties would apparently have been about $1\frac{1}{5}$ billion dollars less per annum than in the early 1920's. These changes in the propensity to save may have been associated with speculative income and capital gains, with changes in population rates, with changes in tax policy, or with changes in the concentration of income.[26] The level of the housing cycle may also have been associated with these changes in the propensity to save.

The Functional Relation of Consumption and National Income

Data on consumption are available which are largely independent of the data on saving used in the preceding analysis. This fact makes it possible to make an independent check on the conclusions reached thus far by analyzing the consumption-income relationship.

Theoretically, one would expect to find that the relation of consumption to income was complementary to the relation of saving to income. The relation of consumption to gross national income should be

[25] The trend shown is a second degree parabola, fitted mathematically while holding constant the net linear effects of the other two variables. After the curvilinear adjustment for the first variable was added, tests by the graphic method showed no measurable shift in the type or position of this trend.

[26] Statistical tests of the significance of the factors mentioned showed no measurable relation with changes in saving.

at each stage just the reverse or the reciprocal of the relation of saving to income.

It would be possible to base the analysis of the consumption-income relationship on a figure for consumption derived from the figures used earlier on gross national income and on gross saving. If that were done, there would be no independence in the two analyses and the new analysis would agree perfectly with the previous conclusions. Fortunately, however, Kuznets' estimates of the composition of national income have provided largely independent data on consumption and the analysis may therefore be based on these independent consumption data.[27] Kuznets' estimates of national income are not comparable with the estimates of gross national income used in the study of the offsets to saving data. Consequently, the results of this consumption-income

TABLE III—TWO ESTIMATES OF CONSUMERS' OUTLAY, AND GROSS AND NET NATIONAL INCOME, BY YEARS, 1920–40

Year	Consumers' Outlay[a]	Consumers' Outlay[b]	Gross National Income[c]	Net National Income[b]
	(billions)	(billions)	(billions)	(billions)
1920		62.1		73.5
1921	54.3	55.8	63.8	59.1
1922	52.4	56.1	64.3	60.6
1923	57.8	62.8	74.8	71.4
1924	61.9	66.0	75.2	71.9
1925	62.7	66.6	79.7	75.9
1926	68.0	72.2	84.8	81.4
1927	67.4	71.8	82.7	79.9
1928	70.2	74.2	86.2	81.6
1929	72.7	77.1	90.0	87.1
1930	70.1	73.1	79.8	77.3
1931	58.5	60.2	63.9	60.3
1932	45.4	47.2	47.4	43.0
1933	39.8	45.9	46.2	42.3
1934	47.3	52.2	55.8	49.6
1935	51.4	53.7	61.7	54.4
1936	57.1	57.6	71.4	62.9
1937	65.2	64.1	79.4	70.5
1938	62.3	62.5	70.8	65.4
1939	60.5	—	75.7	—
1940	64.4	—	82.0	—

[a] Derived by subtracting from estimates for gross national income estimates of offsets to saving.
[b] Revised estimates by S. Kuznets, *National Income, 1919–1938*, Nat. Bur. Econ. Res., Occasional Paper No. 2, Apr., 1941, pp. 6–7.
[c] See O. L. Altman, *op. cit.*, Table 2, p. 14.

[27] S. Kuznets, *National Income, 1919-1938,* Occasional Paper No. 2, Nat. Bur. of Econ. Res., Apr., 1941. An adjustment for 1938 and an estimate for 1939, based upon Department of Commerce figures, were made in the analysis.

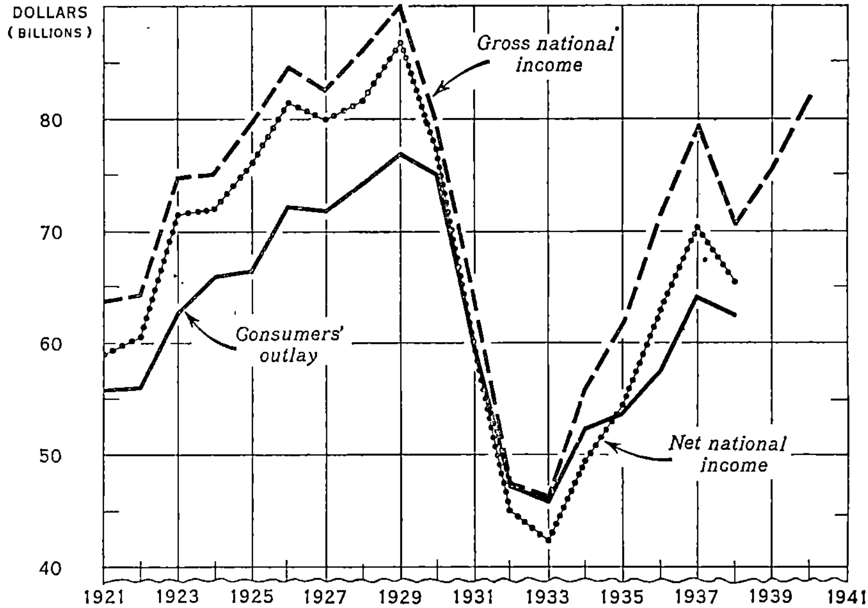

FIG. 7—Consumers' Outlay, and Net and Gross National Income, 1921-40.

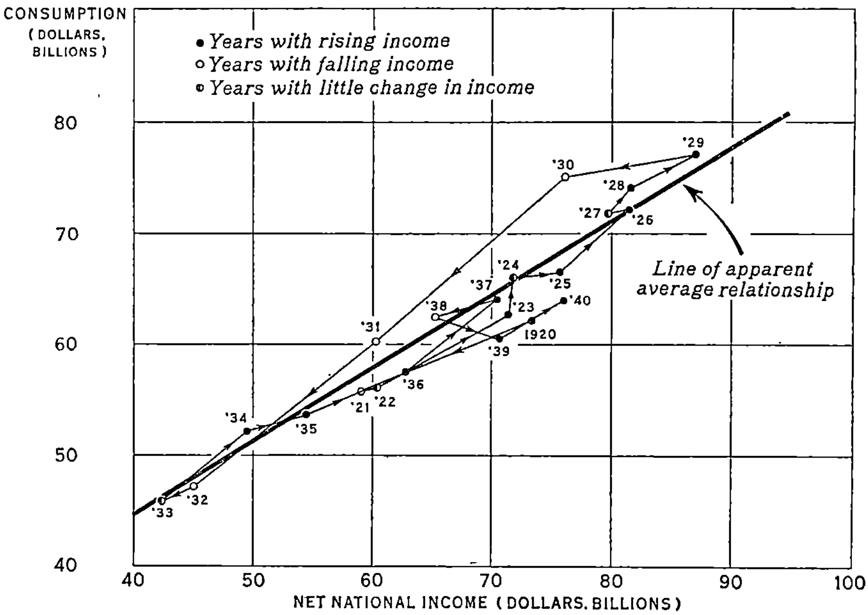

FIG. 8—Correlation of Consumption and Net National Income, 1920-40.

study cannot, strictly speaking, be compared with the results of the previous saving-income study, but they do provide a check upon the conclusions reached as a result of the previous analysis.[28] The estimates of consumption include not only expenditures for non-durable consumers' goods, but also expenditures for consumers' durable goods with the exception of housing which is considered as belonging in the investment category. Some of the goods thus classed under "consumption" are in fact bought through the use of consumers' credit. Consumption as here defined is therefore the same as that shown in Column III of Figure 1.

The changes of consumption in time, as compared with the changes in gross and net national income, are shown in Figure 7. Consumption at all times absorbs the bulk of national income, so it necessarily has a close correlation with it, as is evident in the figure. The nature of this relation is shown more clearly when consumption and net national income are plotted against one another on a dot chart (Figure 8). The relationship is close and apparently linear. It would be possible to explain consumption in every year from income alone with no error greater than 5 billion dollars, and in most years with errors no larger than 2 billions. The simple relation of income to consumption is thus closer than was the simple relation to saving, shown on Figure 5.[29]

Closer examination of Figure 8, however, reveals some of the same peculiarities seen in Figure 5, or, rather, their reverse. Certain years show relatively high consumption for the current income: 1930, 1931, and 1938. These were years of *falling* income. Other years show relatively low consumption for the current income: 1921, '22, '23, '25, '36, '37, '39, and '40. These were mainly (though not entirely) years of *rising* income. There is also some trend present, apparently, with consumption in the latter years of the twenties relatively high and in the latter years of the thirties relatively low. These differences in the behavior of consumption are consistent with those noticed earlier for saving. Rising income is apparently accompanied by less consumption and more saving than would be expected after a static balance is attained at the higher income; falling income by more consumption and less saving than in the static situation.

The relations shown in Figure 8 may be analyzed by the same methods used in analyzing the income-saving relations of Figure 5. Going at once to the type of relationship which was found to yield the best results for saving, we may apply it to consumption by using the formula:

[28] For a discussion of the differences between the two income series the reader is referred to Altman, *op. cit.*, p. 14, footnote 3.

[29] This checking of the saving function by study of the consumption function was suggested to the author by Alvin Hansen. Compare the results shown here with those in Hansen, *op. cit.*, chap. 11, appendix by P. A. Samuelson.

$X_1 = a + b_2X_2 + b_3X_{2_{(1-0)}} + b_4 t + b_5t^2$

where X_1 = consumption, in billions of current dollars

X_2 = Net national income in billions of current dollars.

$X_{2_{(1-0)}}$ = Change in net national income from preceding year in billions of dollars.

t = time in years.

The inclusion of t and t^2 in the formula makes it possible to include allowance for a trend in the propensity to consume, with a parabolic curve.

Fitting this equation by multiple correlation gives the values for the parameters as follows:

$$X_1 = 10.256 + 0.712X_2 - 0.090X_{2_{(1-0)}} + 0.917t - 0.37t^2$$

The closeness of fit of consumption as estimated from this equation to the actual consumption is even better than were the corresponding estimates for saving.[30]

The relations as fitted in the equation just given are compared with the original observations in Figure 9. The solid dots in the upper portion of the chart show the original values; the hollow dots in each section show the values after adjustment for the relationship to the other variables. Inspection of this figure shows no perceptible curvilinearity in the relation of consumption to either the level of income or to change in income. If consumption rose by a decreasing amount as the level of income rises, that would be shown by a curve for the upper line, convex from above. The hollow dots give no significant indication of such a curve.

The lower portion of Figure 9 shows the nature of the net trend. Apparently the propensity to consume increased gradually during the twenties, reached a high early in the thirties, and then declined thereafter. The adjusted data for the individual years indicate that this parabolic trend fits the observations quite satisfactorily.[31]

When Figure 9 is compared with the corresponding figure for saving, Figure 6, the similarity is striking. Both saving and consumption rise with the level of income. The difference between income and consumption at any given level of income is quite close to the indicated saving at the same level. Thus, at 60 billions net national income or about

[30] After allowing for the degrees of freedom removed, the adjusted values were $\bar{R}^2_{1.234} = 0.986$, $\bar{S}_{1.234} = 1.044$. This relation to income and trend thus explains over 98% of the observed variance in consumption. An analysis using data corrected for price and population changes gave a coefficient of multiple determination much lower ($\bar{R}^2_{1.2345} =$ .952) than the analysis pictured in Figure 9.

[31] Tests of the significance of the addition of the trend indicate that it raises the total correlation by an amount that would occur by chance only in one sample out of eight if the samples were drawn from a universe where trend had no real significance.

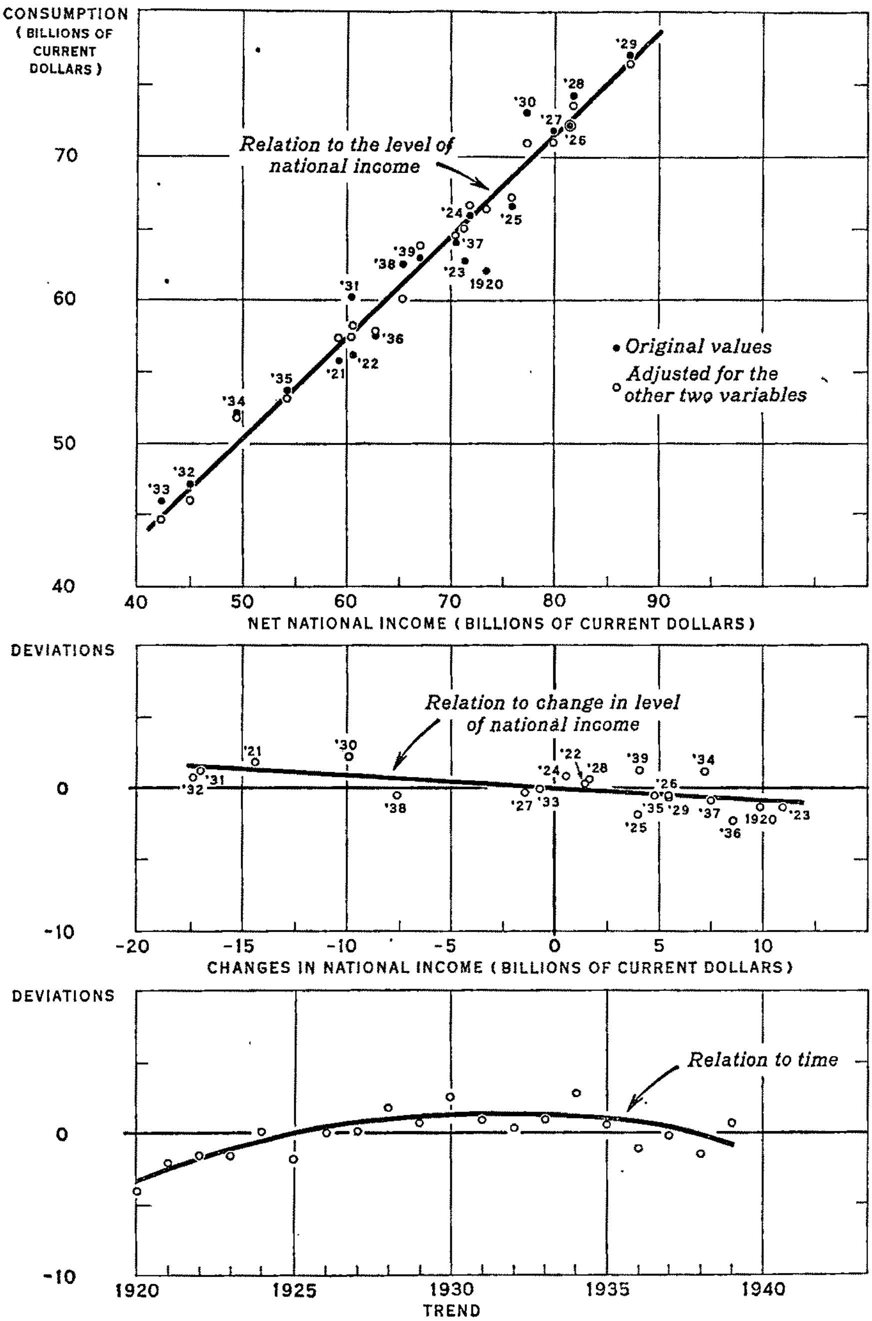

FIG. 9—Factors Related to Consumption, 1920-39.

65 billions gross, the difference is about 8 billions (from Figure 9), and saving is almost 10 billions (from Figure 6); at 75 billions net national income or 80 billions gross, the difference is 12 billions, and saving is 14 billions.[32] But saving (Figure 5) and consumption (Figure 10) show reverse relations both to *change* in level of income and to time. This is in accord with our theoretical expectations and with the apparent relations as shown on Figure 8.

The trend functions are the reverse of one another in shape and timing and in magnitude. Thus, Figure 6 shows that saving in the early twenties ran 2.5 billions above the average amount expected with the current level and change in income, whereas Figure 9 shows that consumption ran in 1921 about 2 billions below the average consumption expected with the current income.

The relations of saving and of consumption to the *change* in income, however, do not come out of the same magnitude. Figure 6 shows each billion dollar *change* in income level to be accompanied by a 230 million increase in saving above that otherwise expected; while Figure 9 shows each billion dollar *change* in income level to be accompanied by only a 90-million decrease in consumption below that otherwise expected. Furthermore, the static relation of consumption to the income level shows no sign of the curvilinearity evident in the static relation of saving to the income level.

These statistical discrepancies in the relations may be explained in part by the differences in the make-up of the consumption and saving and income series, already referred to. The inclusion in the consump-

[32] Figure 9 is computed with net national income as the independent variable, and Figure 6 is computed with gross national income as the independent. To compare the two, it is necessary to use the amount of gross national income usually equivalent to a given net national income. Using the average relationship, this is as follows:

Net National Income (in billions)	Corresponding Gross National Income (in billions)
60	65
75	80

Entering the upper grids of Figure 6 and Figure 9 with these values, the results are as follows:

From Figure 6:

Gross National Income (in billions)	Amount of Saving (in billions)
65	10
80	14

From Figure 9:

Net National Income (A) (in billions)	Corresponding Gross National Income (B) (in billions)	Amount of Consumption (C) (in billions)	B–C (in billions)
60	65	57	8
75	80	68	12

tion series of certain items of durable goods tends to dampen down the response of consumption to *change* in income.

In periods of rapid change in the level of consumers' income, two forces seem to be at work. These two affect the propensity to consume in opposite directions. On the one hand, habits of consumption in individual families seem to be more persistent than habits of saving, so that sudden or large changes in income do not at first affect expenditures for current consumption proportionately, and do affect savings more than proportionately. After a time, if the new level of income is maintained, consumption habits are readjusted upwards or downwards to the higher or lower levels, and savings then are adjusted to conform to the new levels of consumption expenditure.[33] Expenditures for consumers' durables, on the contrary, behave in a different manner. Periods of rising income encourage consumers to expand their purchases of durable goods. This may occur both through the expenditure of idle funds or previous savings, or through purchase on installment credit. In periods of falling income, expenditures for consumers' durables can fall very sharply, while purchases on credit decline below the level of payments due on past purchases, resulting in negative expenditures for durable consumers' goods on credit. The statistical data on this last point are very clear, changes in consumers' credit (which is largely on durable goods) being explainable 95 per cent by *changes* in income, and only 5 per cent by the *level* of income. (Note Figure 10.)

The dynamic relation of an increase in income to consumers' expenditures is thus twofold: expenditures for current consumption rise by less than would be expected from the static relation of income to consumption, while expenditures for consumers' durables other than housing rise by more than would be expected from the static relation. Of the two elements, the changes in current consumption expenditures apparently dominate, as when all consumers' expenditures, durable and non-durable, are lumped together, the net result is a *smaller* dynamic change in consumption (Figure 10), and a *larger* dynamic change in saving (Figure 6), than would be expected from the static relations with income. To the extent that our statistical classification has included in consumption some of those components of consumer expenditures which are financed by installment credit, and are of semi-

[33] In an earlier study, Dirks pointed out very clearly the probable differences in the dynamic and static effects (as they have been termed here) of income changes, and called attention to the "inertia or stability of living standards in the wage-earning classes," and supported it by the analysis of German data. The statistical method which he employed, comparisons of rate of change in both series, lagged and concurrent, did not, however, enable him to measure separately the dynamic and the static elements in the relationship. See Frederick C. Dirks, "Retail Sales and Labor Income," *Rev. of Econ. Stat.*, vol. xx, no. 3, Aug., 1938, pp. 128-34.

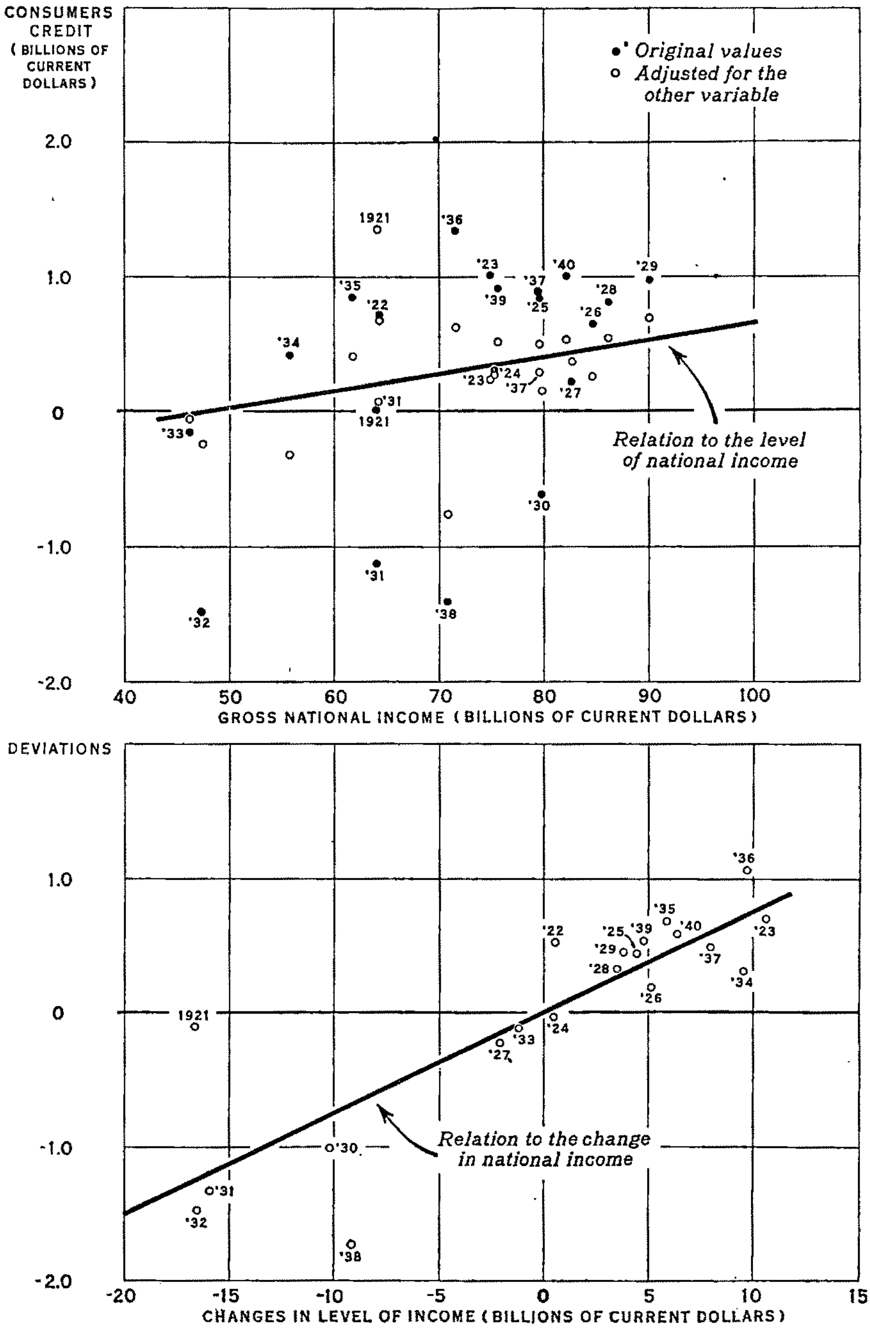

FIG. 10—Factors Related to Consumers' Credit, 1921-40.

durable or durable nature, it has thus concealed part of the response for the current consumption items to the *change* in income.[34]

The way in which the data are conventionally organized thus tends to obscure some of the elements of actual economic behavior. All expenditures for one consumers' durable goods—housing—are usually classified with commercial investment, whereas expenditures for other consumers' durables are classified, in whole or in part, with expenditures for consumption.[35] Yet in many respects expenditures for consumers' durables behave quite differently from expenditures for other consumption goods, and in the dynamic sense they react in an opposite direction. These facts suggest that a breakdown of gross national product might be developed which would base the classification more on similarity of behavior, and less on the commercial or non-commercial character of the expenditures, than do the existing breakdowns.

Relation to institutional changes

The analyses to this point have shown something of the nature of the functional relations between income and saving and consumption. The saving function and consumption function thus defined represent saving and consumption habits under the conditions prevailing during the period covered by the base data—the two decades of the period 1921-40. As a whole this period was one of relatively low taxes on income,[36] of continuing expansion in saving through institutions such as life insurance concerns, of large amounts of saving by business institutions, and of large capital expenditures by governmental bodies.[37] The period as a whole was also marked by high levels of production in two items of consumers' capital, housing and automobiles. Purchases on

[34] This conclusion was verified by a further statistical analysis of consumption. In this analysis, the data on consumption were corrected by subtracting from them the changes in consumer credit, thus giving a measure of consumption expenditures from current income alone. The three independent factors explained 98.4 per cent of the variance in this new consumption figure. The relations to total income and time were similar but the relation to change in income was much more marked. Thus analyzed, the dynamic relation of income to consumption comes out very close to the reverse of the dynamic relation of income to saving, as would be logically expected. Figure 6 shows that for each one billion dollars that income one year rises above the income of the preceding year, saving increases 230 millions above the saving expected at the new income level. Consumption (excluding purchases based on consumer credit) declines 167 millions *below* the consumption expected at the new income level.

[35] The distinction between durable and non-durable consumers' goods is based on duration of life in ultimate use. For discussion see S. Kuznets', *Commodity Flow and Capital Formation*, vol. I (New York, Nat. Bur. of Econ. Res., 1938), pp. 5-7.

[36] Thus the average effective rate on a net income of $25,000 ran between 5 and 10 per cent during most of this period and never exceeded 15 per cent. Approximately 60 per cent of all saving by individuals is done by those with incomes of $20,000 and less. Mordecai Ezekiel, "An Annual Estimate of Savings by Individuals," *Rev. of Econ. Stat.*, vol. xix, no. 4, Nov., 1937, p. 183; National Resources Committee, *op. cit.*, p. 48.

[37] Hansen, *op. cit.*, pp. 238-47.

installment payments may themselves influence saving and consumption habits. The distribution of income among individuals remained highly unequal through the period as a whole, with 25 per cent or more of all income disbursed going to the top 5 per cent of income-receivers, and with the bottom 25 per cent of income shared by 55 per cent or more of income-receivers.[38] Throughout the period one-eighth to one-fifth of all individual income payments went to the top one per cent of income recipients.[39]

Presumably the trends shown on Figures 6 and 9 may reflect changes in some of these institutional factors during the period. As indicated earlier, however, no definite quantitative relationships of institutional changes to these trends have been discovered. On the contrary, the downward movement in income tax rates during the twenties and the increases in the thirties, would be expected to produce shifts in saving and consumption habits just the reverse of those which were actually observed.

A study of the degree of concentration of income in the higher brackets shows that changes in this factor are closely associated with changes in national income. To the extent that this is true the effect of this factor upon saving and consumption is already measured in the relations to the level of income and the changes in that level. No significant net relation was found when this factor was added to the analysis.

It is important to emphasize that the quantitative relations shown apply only under the particular institutional and historical conditions for which they were measured. Before these relations could be used to reach judgments for earlier or later periods, they would have to be adjusted to allow for concurrent changes in all the numerous factors that may influence distribution of national income and saving and consumption habits. However, barring sudden institutional changes of great magnitude, such as the overthrow of our private enterprise system, and assuming the continuity of the trend, the relations determined here seem to describe adequately the behavior of saving and consumption and could be extrapolated for short distances without an undue amount of error.

Summary

This paper analyzes the relation of saving to income and of consumption to income under the conditions which prevailed in the United States from 1921 to 1940, while eliminating (holding constant) the

[38] National Resources Committee, *Consumer Incomes in the United States* (Washington, Government Printing Office, 1938), p. 6; and Leven, Moulton, Warburton, *op. cit.*, pp. 228-29.

[39] A. Goldenthal, "Concentration and Composition of Individual Incomes, 1918-1937," *T.N.E.C. monog. no. 4* (Washington, Sup. Doc., 1940), p. 16.

influence of other factors, found to be related to saving and consumption. Income and changes in income were found to be the major factors related to movements in saving and in consumption. The analysis of the relation of gross saving to gross income confirms the analysis of the relation of consumption to net income. Both analyses show that as national income increases from low levels to high, at the higher levels proportionately more is saved and less is consumed than at the lower levels. Both show that there have been changes in this relation during the past two decades, with consumption at a given income reaching its maximum and saving at a given income its minimum, in the early years of the thirties. Both show that there is a dynamic factor in the relationship with large *changes* in the level of income being accompanied at first by larger changes in saving and smaller changes in consumption than prevail subsequently after a new static balance has been established.

Both the saving-income relation and the consumption-income relation were continuous at approximately the same level through the decade of the twenties and that of the thirties. The trend element showed no sharp break between these periods, and the functional relation remained the same.

The relations found between saving and income and consumption and income, static and dynamic combined, plus the long-time trend in each, left only 4 per cent of the variance in saving and 2 per cent of the variance in consumption unexplained.

The dynamic factor, as discovered here on empirical analysis of the behavior of the relations, agrees surprisingly well with the dynamic factor introduced on theoretical grounds by Smithies as part of his "process analysis" in a paper of which I did not learn until after these studies were completed.[40] Substitution of these realistic parameters into his theoretical equations might extend still further the value of his exceedingly promising analysis.

Except for the introduction of the dynamic factor, these conclusions are in general accord with the hypotheses stated at the beginning of this paper.

Dynamic factors aside, they show that consumption increases as national income increases, but relatively slower, while saving increases as income increases, but relatively faster than income.

(Part II will be published in the June number)

[40] A. Smithies, "Process Analysis and Equilibrium Analysis," *Econometrica,* vol. 10, no. 1, Jan., 1942, pp. 26-38.

"PERMANENT" TECHNOLOGICAL UNEMPLOYMENT

"Demand for Commodities Is Not Demand for Labor"

By Hans P. Neisser

I. Introduction

The theory of technological unemployment is a stepchild of economic science. The facts seem to stand in such blatant contradiction to orthodox doctrine, according to which no "permanent" technological unemployment is possible, that most American textbooks prefer not to mention the problem itself. This attitude is of recent times. The analysis to which Ricardo subjected the displacement of labor by the machine in the last edition of the *Principles* had stimulated a lively discussion among the later classical economists, who, as we shall see instantaneously, followed two different lines of thought. With the rise of neo-classical equilibrium analysis, the discussion died down, at least in Anglo-Saxon literature[1] and only recently the oldest argument against technological unemployment, originally developed by McCulloch, was revised in a little more sophisticated form by two American economists, P. H. Douglas and A. Director in *The Problem of Unemployment* (New York, 1931). We can, therefore, distinguish three approaches:[2]

1. The "Law of Markets" approach, formulated at first by McCulloch in *Principles of Political Economy* (first edition, 1825) Part I, chapter VII, and, as pointed out above, revised by Douglas and Director, applies Say's Law of Markets to the Labor Market. As there cannot be a general over-production of commodities produced, so there cannot be a general over-supply of labor. We shall analyze this argument in the first section of this paper, with some supplementary remarks in Section V.

2. McCulloch's argument was not taken up by the other classical authors, because it is at variance with the classical theory of the demand for labor. As John Stuart Mill stated it most pointedly: "Demand for commodities is not demand for labor" (*Principles,* vol. I, p. 5, para. 9). The maintenance of the demand for commodities according to Say's

[1] Pigou's and Hicks's discussion of labor saving and capital saving inventions was not developed with a view to the unemployment problem. See below, Section V.

[2] The history of the doctrine in question has been written, in a scholarly fashion, by Alexander Gourvitch, *Survey of Economic Theory on Technological Change and Employment* (Work Projects Administration, National Research Project, Report No. G-6, Philadelphia, 1940). The present approach differs in many respects from Mr. Gourvitch's one.

Law, therefore, does not militate against an over-supply of labor. It is the volume of circulating capital, interpreted as wage fund, that governs the demand for labor. Following Ricardo's lead, the theory of "compensation" of technological displacement of laborers was worked out. In contrast to the Law of Markets approach, which does not allow any exceptions to the denial of "permanent" technological unemployment, the Wage Fund School maintains the occurrence of compensation only as the general rule, exceptions from which are deemed possible though unlikely. In Section III,[3] we shall consider this argument.

3. The neo-classical equilibrium approach differs from the preceding ones by denying the possibility of technological unemployment only as to a state of long-run general equilibrium proper, in which complete adjustment of all the variables of the economic system is attained (size of firm, input, output, prices of goods produced, prices of productive services, interest rate). The difference of the neo-classical approach from the Law of Markets approach is concealed by the use of the terms "temporary" and "permanent" by the latter school. By "permanent," Douglas and Director do not refer to the state of long-run equilibrium proper. This is clear from their definition of "temporary" technological unemployment (*op. cit.*, pp. 113 *ff.*), which refers only to such obstacles to the reabsorption of laborers as: slow working of competitive mechanism, slow transfer of expenditure from one good to the other, or of workers from one industry to the other. A state of affairs in which these obstacles are overcome (as we shall assume throughout the present paper) still might be in a merely "short-run equilibrium" in the neo-classical sense, which is based on the assumption that all equipment is "given" as to quality and quantity, while long-run equilibrium proper in the neo-classical sense requires, among other things, the adjustment of the size of the firm and of the quality of equipment in such a way that average costs equal price for all firms. Indeed, if the Law of Markets is valid at all, it must be applicable to periods of any length, provided only the period is long enough to overcome the temporary obstacles; and similiar considerations apply, as we shall see, to the wage-fund argument.

There is a further important difference between the scope of the neo-classical argument and the two preceding ones. Their concepts of unemployment differ. The older theories use something like the popular concept: a man is called unemployed if he cannot find employment at the prevailing wage rate. If "permanent" technological unemployment in this sense is impossible, then, indeed, technological progress would confer only benefits to the working class, as maintained by the two classical schools. On the other hand, the neo-classical approach only

[3] Section II deals with the concept of a labor-saving device.

maintains that, in the long run, a man can always find employment at the *long-run equilibrium wage rate*, which may differ considerable from the prevailing rate. A man who refuses to work at this equilibrium rate might be called unemployed by the classical school, but would not be called unemployed by the neo-classical economists; it is in this sense only that neo-classicism denies the possibility of "permanent" unemployment.

While there is little merit in the two classical approaches, the neo-classical one stands on much firmer ground, on account of its lesser scope. However, even the neo-classical approach is far from giving the unambiguous answer its adherents ascribe to it. This will be shown in Section IV. On the other hand, while the unqualified denial of "permanent" technological unemployment in traditional theory is not justified, preliminary empirical investigations (which cannot be presented in the present paper) have convinced the present writer that popular opinion vastly exaggerates the amount of unemployment which properly could be called "technological." The relative small size of technological unemployment in history is attributable, partly, to the independent forces increasing employment, which briefly will be discussed in the last section. In no case would it be permissible to use simply the current unemployment statistics as a verification or a repudiation of the theories which affirm or deny the existence of technological progress that creates unemployment. Hitherto the discussion has been marred by a confusion of historical and theoretical statements. We read, *e.g.*: "As a matter of fact, however, the increased output, consequent upon the introduction of machinery, gave rise to an increased demand for products; and the increased products, due to the cheaper machine process, stimulated the accumulation of capital and resulted in the building and operation of numerous new plants which reabsorbed the labor supply. Thus machinery in the end has not displaced labor but instead has increased the marginal product of labor and thus increased real wages."[4] We may interpret this as a historical statement concerning the period since the Industrial Revolution till the crisis of 1929; during this period, factors making for more employment are supposed to have outweighed the factors of displacement; and this historical statement is, of course, confirmed by the inspection of census figures. On the other hand, these statistics are quite inappropriate to the theoretical question whether technological progress *contributes* to unemployment. What would one think of an argument against the law of gravity based on the undeniable truth that only a very small number of people habitually fall against the center of the earth with an acceleration of 33 feet per second? And yet, the reference to unanalyzed observation is not worse than the reference

[4] F. B. Garver and A. H. Hansen, *Principles of Economics* (1937), p. 567.

to unanalyzed historical facts. In order to obtain a reliable answer to our question, it is necessary to keep constant the other factors as far as they are *truly independent, i.e.,* not exclusively or almost exclusively governed by the volume of technological unemployment itself.

II. The Law of Markets Approach

The compensation argument of the Law of Markets School runs as follows: Purchasing power is, by itself, indestructible; if technological progress in industry A reduces the amount of labor necessary to produce a given volume of output in this industry, the price of the goods will decline in proportion to the decline in average costs, at least under conditions of full competition; now either the sales volume can be increased correspondingly to the price fall (demand elasticity $= 1$), then the workers displaced will be reabsorbed by the industry A itself, which now produces more; or the sales volume increases by less (demand elasticity < 1), then the consumer will be able to increase his outlay for the products of other industries B, C . . . , which, therefore, would reabsorb the workers displaced in industry A. And in the case of a demand elasticity *larger* than unity it would be industry A which attracts additional labor. Thus, the initial displacement of workers in industry A is compensated by an increased demand for labor either in that industry, or elsewhere. In other words, with a given volume of consumers' outlay and with a given output, a definite amount of employment is associated; demand for commodities *is* demand for labor.

It is difficult to obtain a clear idea of the price theory which underlies this argument. The starting point of the Douglas-Director analysis obviously is a state of *long-run equilibrium* in which not only marginal costs but also average costs equal price; and the analysis ends by looking at *another* state of equilibrium, reached after the technological progress has materialized, because the authors assume that at the end of the process competitive prices will *again* equal average costs. The question naturally arises: In what way is the reabsorption of displaced workers in industries B, C . . . carried through? (For the sake of simplicity, attention will be focused in the present section on the case of a demand elasticity smaller than unity.) In the "short run," *i.e.,* with equipment given as to quantity and quality and with a given wage level,[5] there is no reason to assume that an upward shift of demand in industries B, C, etc., would spend its force exclusively on output. On the contrary, as the basic equation of monetary theory is usually interpreted,

[5] The second condition is not strictly Marshallian and could be dropped in other applications of the short-run concept. As pointed out by F. H. Knight (*Risk, Uncertainty and Profit,* pp. 142-44, footnote), Marshall neglected to correlate clearly the theories of commodity prices and factor remunerations for the different phases because he was concerned chiefly with partial equilibrium analysis.

an increase in the flow of purchasing power may raise *prices* rather than *output*. And although this statement refers to the *total* flow in the economic system and to the price level, it may be true also for an individual industry; for the entrepreneur cannot possibly ascertain the source of rising demand; whether it is generated, on the one hand, by gold production, credit expansion, dishoarding, etc., *i.e.*, factors that govern the flow of purchasing power in general, or, on the other hand, by a redistribution of the *existing* flow. We admit, however, that this application of the "equation of exchange" is not permissible in the problem before us; because even in the short run the physical volume of output is not a given magnitude (as assumed by the older forms of the quantity theory) but is indicated by positively sloped supply curves. Only in the limiting case ("full" utilization of resources) will demand intersect the supply curve in the *vertically* sloped segment of the latter; but there is no case in which the effect of the expanding demand would be wholly concentrated on output, as the theory of compensation implies. Even under imperfect competition, where the competitive supply curve has to be discarded, the cases are rare in which expanding demand will not raise the price.

As long as the equipment in industries B, C, etc., has not undergone fundamental changes as to quality and quantity, they are not able to reabsorb completely the workers displaced in industry A. This adjustment of the given stock of equipment is not discussed at all in this context by the Law of Markets School; and, indeed, the adjustment could not be secured by the operation of the Law of Markets alone. The adjustment can be achieved in various ways: (1) by a change in the size of the firm, other firms changing commensurately in the opposite direction; (2) by a change in the wage level, caused by the technological unemployment; (3) by a change of the "quality" of equipment; (4) by a change in the total quantity of equipment in the economic system. Of these methods, number (1) could not, in principle, raise employment *in toto*, because an increase in the size of one firm, under stationary conditions, involves a reduction in the size of another firm, from which capital is transferred to the first one; nevertheless, the implications of this re-distribution of capital deserve comments; we shall return presently to them. It is mainly the action of mechanisms (2)-(4), not the "indestructibility of purchasing power," through which displaced workers may be reabsorbed. However, as shall be pointed out in later sections, the effectiveness of these mechanisms has theoretical and practical limits which militate against the hard and fast theoretical proposition that no permanent technological unemployment is possible.

The neglect of the mechanisms numbers (2) and (3) by the Law of Markets School can be explained, partly, by their second assumption

that not only consumers' outlay and output, but also output and employment are rigidly associated. In other words, an output of, say, $1,000 in industry A is supposed to be associated with the same amount of employment as an output of $1,000 in any other industry (B, C, etc.), materializing during the same period. The significance of this assumption for the Law of Markets approach is obvious; for let us suppose, for the sake of the argument, that $1,000, transferred from outlay for A to outlay for B would spend their effect exclusively on output and not at all on price in B: still it would not follow that the workers displaced in A would be completely absorbed in B, unless the crucial assumption we are discussing now is correct. However, since labor and capital coöperate in different proportions in different industries, $1,000 output will contain different amounts of wage costs and labor in different industries. The assumption is therefore untenable.

It should be noticed that the assumption discussed in the preceding paragraph does not become tenable if, instead of individual industries, "integrated" industries (including the so-called "higher stages" of production, where raw materials and machinery are produced) or the economy as a whole are considered. It is sometimes asserted that differences in the capital-labor ratio of a lower stage are of no significance for the economic system, because capital expenses will be "ultimately" resolved into labor expenses; thus, if in a lower stage of production the capital expense assumes a relatively large share of total expenses, labor expenses are supposed to take a correspondingly larger share on the "higher" stages. But, first of all, the resolution is not one of *all* capital expenses but only of the replacement allowance (for equipment and material) and it is not a resolution into wages alone but into *all factor remunerations*. The reader may consider the following pattern which symbolizes the circulation in two integrated industries differing as to the share of labor expenses in total expenses. In both cases, total expenses on the lowest stage are $1,000. Under the simplifying assumptions that (a) rent, cost-taxes and profits are zero, (b) that the period of turnover of capital is the same in both cases on all stages, the circulation can be represented, in each case, by three columns representing, from left to right, (1) interest, (2) the other capital expenses (to be distributed on the next stage), and (3) wages; the ratio is, on every stage,[6] in the first case $1 \div 1 \div 2$, in the second case $1 \div 1 \div 6$.

In other words, the net output of an economic system may consist,

[6] Since the highest stages are common to all industries the assumption of a constant share of wages in total expenses on all stages of an "integrated" industry is incompatible with the existence of different ratios for different industries on the lowest stage. This does not invalidate the argument. A more realistic example can be found in my paper "Oeffentliche Kapitalanlagen in ihrer Wirkung auf den Beschaeftigungsgrad" in *Economic Essays in Honour of Gustav Cassel*, London, 1933, p. 464.

e.g., of 66⅔ per cent wages and 33⅓ per cent profit, interest and rent, *or* of 86 per cent wages and 14 per cent profit, interest and rent; in the latter case, obviously, employment would be larger, provided we compare systems with the same output and wage level.

CIRCULATION OF EXPENSES IN INTEGRATED INDUSTRIES

Stage	First Case			Second Case		
First Stage	250	250	500	125	125	750
Second Stage	62.5	62.5	125	15.6	15.6	93.8
Third Stage	15.6	15.6	31.1	1.9	1.9	11.8
....	....	....	....	....	....	....
Sum	333	333	666	143	143	857

For the problem of technological unemployment, however, the correction by which we had to qualify the "resolution" theorem, may seem to be less important. We are still in the short-run phase of the problem, *i.e.*, we ask whether absorption of the released labor is possible with a stock of equipment of given quantity and quality; then only those costs which enter into short-run supply price will matter, *i.e.*, *marginal* costs; in their determination interest plays a very small rôle, the bulk of interest being a fixed charge. There is, however, another aspect of the "resolution" process, which further *invalidates the rigid association* between output and employment, supposed by the Law of Markets School. In an industry B with a relatively small share of labor expenses per $1,000 of output, the total amount of *capital expenses* naturally would be larger than in industry A; and this result holds true also for "integrated" industries. But will the capital expenses be currently expended? We may here disregard the question where, in case of a transfer of consumers' outlay from industry A to B, the money would come from to pay out the larger volume of total expenses, which as the example shows may develop in B as compared with A; for the problem is not purely monetary. Are we entitled to assume that the increased replacement allowances in industry B will be used currently for reinvestment and likewise, in case of an imperfect supply elasticity in B, that the ensuing profit increment in B will be spent and invested in its entirety and not hoarded? Obviously *if* some hoarding took place, then the "higher stages" would not benefit in full from the capital expenses (and profits) in the lowest stage, and the reabsorption of workers would meet a further obstacle.

The following alternatives seem to offer themselves as answer:

1. The chances for an increase in current investment and replacement in B are good if the capacity of the industry as a whole is so well

utilized that aggregate profits are above zero or at least not negative. But then the range over which the supply elasticity in B is still considerably above zero, would be rather small, and the transfer of purchasing power from A to B would spend its force largely on *prices*.

2. A large amount of unused capacity in the bulk of *competitive* industries, *i.e.*, a wide range of *elastic* supply, is indicative of latent *deflationary* tendencies. If, therefore, the displacement occurs in an industry where the share of labor expenses is relatively large, the ensuing price fall, indeed, might bring about a rise in *output* in the lowest stage of B, C, . . . without a considerable price rise; but the absorption of labor in integrated B, C, . . . would *not run parallel* to the increase in *output*.

3. There remains the alternative of widespread "monopoly," under the reign of which unused capacity would *not* be indicative of latent deflationary tendencies. However, a stage of widespread monopoly certainly is not conducive to increasing the stock of equipment by investment.[7]

III. A Tentative Definition of Technological Unemployment

We have already obtained some results,[8] though we have still a long way to go. The Law of Markets does not secure the reabsorption of workers; there is no rigid association between purchasing power and quantity of output nor between output and employment. In the latter conclusion the key to the understanding of technological unemployment is to be found: according to different stages of the arts, a given volume of capital tends to combine with different amounts of labor; the

[7] The Douglas-Director discussion of technological unemployment under "monopoly" conditions is not less objectionable than their discussion of the case of competition. Admitting that consumers of A would transfer less purchasing power from industry A to B, C, etc., under monopoly in A than under competition, they insist that the difference is made up from the increased monopolistic profits in A. This amounts to assuming that monopolistic profits can be spent in the same spending period in which they are taken in; in other words, monopoly is considered to secure an automatic increase in the flow of purchasing power per time unit or, what is the same thing, in the velocity of circulation. A detailed discussion of this unfounded assumption is not necessary because it is not essential to the basic argument of the Law of Markets School; moreover, although the *transition* from competition to monopoly certainly would reduce output and employment, no reason is visible why, under monopoly, the *relative* displacement of workers by technological progress would be larger in per cent of the employed than under competition.

[8] The results of Section I were obtained on the level of a "partial equilibrium" analysis. Most recently, Professor O. Lange has made the attempt, to work out, under the same assumptions (given equipment, given wage level) a short-run *general* equilibrium level in form of a system of equations, which would permit to ascertain the repercussions in industry A originating in the induced changes in another industry. The report on Professor Lange's paper (in "Cowles Commission for Research in Economics; *Report of Sixth Annual Conference*, 1940," pp. 68-71) is too brief to allow any judgment whether, on the basis of his model, results of wider scope than worked out above could be obtained.

labor-saving type of technological progress simply raises the amount of capital per worker. The phrase "tends to combine" points to the fact that the trend of technology may be nullified by forces of *adjustment* (mentioned above, p. 54), the discussion of which will be the topic of the last sections of this paper, but these forces do not entitle us to deny the existence of the technological trend itself.

From this viewpoint, a labor-saving device is a method of production which permits production of the same output with less labor than before, either with the same or an increased amount of capital.[9] This definition provides also an answer to the naïve question whether the displaced laborers would not be reabsorbed in the production of the labor-saving device itself. As matter of principle, no increase in the physical volume of capital is necessarily involved in the technological progress; the improved device may not cost more than the unimproved one, and might be financed from depreciation funds; and even if, in a given case the capital embodied in the new device would exceed that embodied in the old one, reabsorption of all displaced laborers is impossible, since otherwise the unit costs of output would not be smaller than before, and no incentive to introduce the new device would exist.

On the other hand, our definition of labor-saving devices has obvious defects. The criterion "capital divided by labor," both measured in terms of prevailing prices, is defined for a firm of given size, measured in terms of *current output;* output and size of the firm, however, may vary, and for different volumes of output, the ratio in question may be different. (We shall take up this question in Section V.)

IV. The "Wage Fund" as Maintaining Employment

For the short-run analysis offered in the preceding sections, the increase of demand in industries B, C, etc., is the causal factor that brings about a short-run price rise and increase in output. The *market price* would rise at once under a stimulus of increased demand, above the *short-run price,* and it would be the response of entrepreneurs to the higher market price that would bring about the short-run increase in output and would lower the market price to the new short-run level. Consequently, in the analysis of short-run price and output, economic theory needs not bother about the question of where the entrepreneur procures the additional working capital: it is the degree by which working capital is provided that governs marginal output in the short run, and not the quantity of output that governs the volume of working capital needed. Whether the entrepreneur utilizes the temporary extra profits, from the rise in market price, or borrows funds to build up the marginal quantity of working capital, is irrelevant; in any case, the

[9] The corresponding definition of capital-saving devices is obvious.

supply price of the additional funds enters the marginal cost function, the shape of which governs the increase in output for any given upward shift in demand in the industries B, C, etc.

Thus, there would not be any reason to treat specifically the procurement of working capital within the framework of our analysis, if it were not for the central position into which classical economists have placed it in discussing technological unemployment: it is in circulating capital and not in the demand for commodities that, in their opinion, the demand for labor resides. Technological progress therefore could not affect the demand for labor but by impairing the stock of circulating capital. This classical proposition needs some comments.

The circulating capital or working capital is considered by classical economists as a stock of wage goods or "wage fund," supporting laborers during the "period of gestation," *i.e.*, till the goods they are just processing have sufficiently "matured" to be consumed. To this construction, it has been objected that workers do not live on a stock of goods, accumulated in advance for the whole period of gestation but largely on a current flow of goods, emanating continually during the period, provided production is sufficiently synchronized. For our present purposes this point is of minor importance, the more so since the continuous coming forth of the flow is conditioned by the perpetual existence of a stock, not of finished wage goods, but of "goods in process." Ricardo based the possibility of technological unemployment or entrepreneurial inclinations to reduce, in the interest of higher profit, the wage fund by converting "circulating" capital into fixed capital.[10] His successors, for a considerable time, identified the question whether technological progress has proved beneficial or not to labor, with the other whether the wage rate would be adversely affected in the course of progress. To answer in the negative, they were satisfied with proving that, at least in the vast majority of cases, the wage fund would not be reduced by technological progress.[11] The theory of employment itself was only indirectly touched upon. It cannot be doubted, however, that, in classical opinion, the mere fact that the "wage fund" was maintained, sufficed to secure also re-employment of the displaced workers.[12]

The wage-fund theory of employment can serve as an illustration of Marshall's dictum that many an older economist "did not seem to have a sufficient responsibility . . . for keeping the number of his equations

[10] David Ricardo, *Principles of Political Economy and Taxation,* chap. 31.

[11] See the most elaborate analysis of N. W. Senior, *An Outline of the Science of Political Economy* (Reprint, 1939), pp. 153 *ff.*

[12] The only systematic presentation of the issue from this angle known to the present writer is: H. Mannstaedt, *Die Kapitalistische Anwendung der Maschinerie* (1905). As "theory of compensation," the argument appears in many German textbooks. Cf. *e.g.*, Ad. Weber, *Allgemeine Volkswirtschaftslehre* (1928), p. 169.

equal to the number of his variables, . . ." (Letter to Colson, printed in *Econometrica,* Vol. I, 1933, p. 221). Evidently, in order to determine, on the basis of the wage fund the number of employed, one has to know the wage rate in terms of wage goods. On the other hand, in classical teachings, the wage rate itself is governed by the wage fund; it is obtained by dividing the wage fund by the number of employed: *one* equation, *two* unknowns! With the concept of a given stock of wage goods, it is consistent to conclude *either* that the laborers displaced in A are re-employed and the wage level remains the same, *or* that they are *not* re-employed, thus consuming less, while the real wage level of the still employed rises. The latter alternative, surprising as it seems at the first glance, is by no means improbable; we have only to remember that what is fixed contractually between employer and worker is not the real wage but the money wage rate; if the wage bill declines because of technological unemployment in some industry, the given stock of wage goods can be sold only at lower prices, as it usually happens at the beginning of a depression. If this alternative is accepted, it is tempting to deduce from this starting point a theory of depression; for, certainly, the producers of wage goods (whose costs have not yet declined!) would respond to lower prices with a short-run reduction of output; thus a chain of cumulative shrinkages could be supposed to be generated. However, this line of reasoning would imply the acceptance of a fundamental but faulty premise of the wage-fund approach, namely, that wage goods are rigidly separated from other consumer goods. There is not only a stock of wage goods in *process,* from which the continuous flow of wage goods emanates, but also stocks of "profit goods" in process, "rent goods" in process, etc., from which the flow of real income to the other classes is continually generated. Now even in the short run some transfer from the flow of wage goods to the other flows is possible; if the decline in the wage bill happened to be associated with a rise in profits, the wage fund would decline and the "profit fund" would rise. It follows that the classical equation: Wage Fund = Wage Rate (per period of gestation) times Employment, has *three* unknowns.[13] And such a rise of profits, parallel to the decline in the wage bill in A because of displacement of labor, is by no means restricted to cases of imperfect competition, as Douglas and Director, arguing in terms of average costs, supposed; whether, under perfect competition, profits or losses are created in the short run by the introduction of the new technical methods depends *inter alia* on the way in which the shape of the marginal cost curve is affected by the technological progress.

[13] Senior was not without misgivings in this respect. The ratio of wage goods produced to profit goods produced is, in his theory, governed by the profit rate (*op. cit.,* p. 174); the logical circle is complete.

It is not surprising that the analysis of the wage-fund theory of employment, on the whole, gave negative results. For this approach, as embodied in the equation above, is purely algebraic and does not indicate the causal mechanism, neither the motives of entrepreneurs nor the technical possibilities of re-employment. The classical theory had recognized that production is conditioned by the coöperation of fixed capital, circulating capital and labor, the ratio of capital to labor being governed by what later was called "the nature of industry," *i.e.*, the state of the arts; if so, how could the mere preservation of *circulating* capital ensure re-employment? Ricardo did not bother much about this question, because his "long-run" equilibrium concept was different from the later, neo-classical one,[14] denoting not equilibrium as worked out for a *given* quantity of factors available, but rather the terminating point of a process in which the rise or fall of the supply of labor and the changes in the current rate of capital accumulation adjusted both prices and factor remuneration to their "natural" level, and secured full employment of labor. The most logical conclusion (which was, indeed, drawn by Marx) would be to have current employment governed by the quantity of fixed capital available and the nature of the respective industry; then, technological progress that raises the amount of fixed capital necessary per worker would bring about displacement, to be compensated solely by further accumulation and investment of capital.

Later classical economists like Cairnes and Sidgwick,[15] being aware of these logical consequences of the Ricardian approach, tried to save the optimistic results of McCulloch and Senior in part by pointing out that additional fixed capital could also be provided by converting into fixed capital the working capital set free by the displacement of laborers. The quantitative significance of this process clearly would be small. Some theoretical comments on this suggestion may also be permitted here, because they will definitely clarify the position of working capital in the process of displacement and reabsorption. The setting free of working capital refers to the industry A where the technological progress materializes, not to the industries producing wage goods; because if these would reduce output and working capital, they would create *additional* unemployment, which would require an *additional* process of absorption.

Now, the output in industry A is certainly larger after the introduction of the new methods than before; otherwise, the price would not fall. Consequently, the *physical volume* of working capital in A must be *larger* than before, except in the case that the period of gestation is

[14] See F. H. Knight, *Risk, Uncertainty and Profit* (New edition, 1929), p. 143, footnote.

[15] J. E. Cairnes, *Some Leading Principles of Political Economy Newly Expounded,* (1894), pp. 190 *ff.*; H. Sidgwick, *Principles of Political Economy* (1883), p. 320.

reduced by the technological progress, which would imply a capital-saving device rather than a labor-saving one. Still it would be possible that the *value* of the stock of working capital is smaller than before, despite the larger quantity, because goods are now produced by less labor per unit of output. But even if the value happened to shrink, this would not imply an abundance of working capital which could be converted into fixed capital. Entrepreneurs in A would pay out, during the period of gestation, a smaller amount of funds to factors of production than they had before; in the subsequent period, the effective demand for commodities and the net amount by which the demand for goods in B, C, etc., is augmented, would be correspondingly smaller. In these industries, the entrepreneurs would respond to a lesser degree than assumed in Section I, by expanding output and working capital in the short run: any mobilization of the abundant working capital in A would, therefore, at the best, raise the compensation of the technological unemployment to the level indicated in our former analysis and no additional absorption would ensue.

Clearly, if, in the process of technological progress the flow of purchasing power is maintained, as the Law of Markets School assumes, then the aggregate value of working capital in the economic system would not shrink; its wage component may decline, but, because of rising prices or of a higher ratio of capital to labor (in B, C, etc.), the other components, *viz.*, profits and business payments, would rise.

V. Changes in the Wage Level and in the Quality of Equipment

Removing now, step by step, the strict conditions of the short run, we drop first the condition of an unchanged wage level. Technological unemployment could lower the wage level throughout the system. In the short run, where equipment is given as to quantity and quality, this would cause a downward shift of the marginal cost curve and would increase current output and capital, for any given state of demand. At the same time, a *long-run* process is started, adjusting the *quality* of equipment. Lowering the wage rate tends to bring about a combination of the given quantity of equipment with a *larger amount* of labor, implying the reabsorption of a certain number of displaced workers.

As pointed out in the beginning, this theory of compensation, being the offspring of modern equilibrium theory, has a greater theoretical validity than the two older approaches discussed in the preceding sections. Equally great is the difference between the scope of the compensation argument of the equilibrium school on the one hand and the two older approaches on the other hand. The Law of Markets School and the Wage Fund School tried, above all, to prove that the wage level would *not* be affected; the mechanism of absorption we are going to

discuss now does not support in any respect the older doctrines. Moreover, the practical significance of the equilibrium theory approach is small in the present era of relations between capital and labor, where wage rates have proved very inelastic in face of the pressure of unemployment.

We do not want, however, to dismiss the problem with such purely practical considerations. Too easily would it be argued that unemployment caused by technological process is not genuine, but would vanish in time if a sufficient wage reduction set into motion the mechanisms now under consideration. Theoretical comments on the neo-classical approach are the more in order, since the opinion seems to be commonly held (although never explicitly stated) that wage reductions, in order to be sufficient for reabsorption, need not be considerable, or would at least not reduce the worker's standard of living beyond a fair minimum.

As to the short-run effects of a wage reduction, our comments can be brief: (1) It is still an unsettled question of economic theory whether the assumption of an unchanged state of demand is compatible with the general decline in the wage level; (2) the degree of reabsorption of displaced workers, consequent to the reduction of wages, is, in the short run, theoretically not related, to the magnitude of displacement.[16]

More complicated is the theoretical analysis of the changes in the *quality* of equipment caused by a wage reduction. For it is precisely by these changes that, according to the neo-classical theory, a state of general long-run equilibrium is brought about; and in such a state, no unemployment in the *theoretical sense* could exist. A closer analysis of the mechanisms involved is necessary.

The term "change in the quality of equipment" covers two processes. The first is a consequence of the change in the *price relations* brought about by the decline in wage rates which sharply lowers the prices of all goods in the production of which relatively much labor and little capital is applied; consumers' demand will turn to these goods, and productive resources will be transferred to such "little capitalistic industries" (as they may be called from now), from highly capitalistic industries, increasing the amount of labor combined with an equipment of given *quantity*. The second process refers to the change in the methods of production within the specific industry; it is a process underlying the traditional marginal productivity analysis, where, with a given quantity of "capital," different quantities of labor are combined. Both

[16] Further results may be reached by a short-run *general* equilibrium analysis of a system of simultaneous equations, with equipment but *not* the wage level being given. Such a system has been developed recently by J. R. Hicks in *Value and Capital* (1938). The present writer has not yet been able to make it fruitful for the particular problems of this paper.

mechanisms together are supposed, in modern theory, to bring about general equilibrium in the long run.

The limits of the first mechanism are fairly clear. Obviously it would not work if in all industries the factors of production would be combined in the *same* fixed ratio. As illustration, let us assume that three units of labor are always combined with two units of capital. If, then, an equal amount of labor and capital is available, plainly one-third of labor would be unemployed all the time. On the other hand, if there are "industries," like the "industry" of personal services, in which labor needs not the combination with capital to operate, then it is certain that at a zero wage rate all labor would be employed. If this unrealistic assumption is discarded, however, the picture changes: at a positive wage rate, the equilibrium price for any good produced must be above zero, and then the demand for the product of the little capitalistic industry may not prove sufficiently elastic.

This possibility is somewhat concealed by the mathematical form in which the equilibrium theory is stated. Equilibrium is characterized by a system of equations, in which prices and output of the different goods and the different productive services are the unknowns; since the number of equations can be shown to equal the number of unknowns, there always seems to exist a set of solutions indicating the prices of goods produced and of productive services at which the latter are utilized in full and no longer unemployed in the theoretical sense, *whatever the volume of their supply.* However, these solutions need not give positive values for prices and output (not even real ones!); and if not, then they are meaningless, and no equilibrium exists on the basis of the data. In the following illustration, we use the original Walras model reproduced, in simplified form, by Cassel in his *Theory of Social Economy,* Book I, in which the methods of production, stated as "coefficients of production," are taken as fixed, because we wish to isolate the effects of the first mechanism from the second one, *viz.,* the marginal productivity mechanism. We assume

1. Two kinds of productive services with unknown prices z_1 and z_2
2. Two kinds of produced commodities with unknown prices p_1 and p_2
3. Demand elasticities equal to unity, depending only upon the price of the good in demand, *i.e.,* consumers' outlay being constant.

We denote by

S_1, S_2 the unknown output of the good produced,

D_1, D_2 the demand for these goods as function of their price

R_1, R_2 the available supply of productive services (say, of *labor* and *capital*)

$a_{1,1}$, $a_{1,2}$ the (known) amount of productive service 1 necessary to produce one unit of commodity 1 and 2, respectively,

$a_{2,1}$, $a_{2,2}$ the corresponding amount of productive service 2. We arbitrarily put the constant outlay for commodity 1 equal to that for 2, each equal to 10, the a-coefficients equal to 1, 2, 6, 4, respectively, and $R_1 = 1$, $R_2 = 10$. We have the following equations:

Price equals average costs: $a_{1,1}z_1 + a_{2,1}z_2 = 1z_1 + 6z_1 = p_1$

$a_{1,2}z_1 + a_{2,2}z_2 = 2z_1 + 4z_2 = p_2$

Supply equals demand: $S_1 = D_1 = 10/p_1$

$S_2 = D_2 = 10/p_2$

Full use of productive services: $R_1 = 1 = a_{1,1}S_1 + a_{1,2}S_2 = 10/p_1 + 20/p_2$

$R_2 = 10 = a_{2,1}S_1 + a_{2,2}S_2 = 60/p_1 + 40/p_2$

Solutions: $p_1 = 5$; $p_2 = -20$; $z_1 = -35/2$; $z_2 = 15/4$

As pointed out before, the negative prices for product 2 and productive service 1 are meaningless;[17] there is no full employment of all factors of production, on the basis of the data.

No specific illustration can be given which would show that an equilibrium system of equations in which the coefficients of production are variable, need not possess meaningful solutions either. The lack of reliable empirical material prevents a precise determination of the limits of the second mechanism. However, general observation renders it very likely that such limits exist, and that we are not entitled to expect from the marginal productivity mechanism the absorption of displaced workers beyond a certain, probably narrow limit. The present writer hazards the guess that in industry proper, as contrasted to agriculture and mining, the marginal productivity is very inelastic over the range beyond the combination of capital and labor which was obtained after the World War. To realize this more clearly, we only have to visualize a modern industrial enterprise like a steel plant, fully utilized in the short run, and to ask in what way and to what degree the plant, without increasing the quantity of equipment, could employ more labor if the wage level were lower. Certainly, a number of minor changes in the quality of equipment are possible which would permit employing more labor (say, for cleaning purposes); furthermore, by the removal of some gadgets of minor importance, capital might be set free, which, if added together for all steel plants, allows the establishment of a new steel plant that would absorb labor. However, to the present writer, it seems very doubtful that the total increase in employment caused by such methods could be of larger order of magnitude than a small percentage of the original volume of employment.

[17] The emergence of both, a negative price of the productive service and a negative price of the good produced, is accidental. We could construct cases in which a negative price of the service arises despite of all prices of goods being positive.

Marginal productivity theorists, however, sometimes envisage another type of technical change. The era in which the puddling process was replaced by the Bessemer converter and by the open hearth process (processes requiring a much higher amount of capital per worker than used before) was also the era of rising wage rates. Would not a sufficient lowering of wage rates revert the development and bring about the application of older processes requiring much less capital per worker? This argument overlooks that, even at a considerably lower wage rate, the puddling process may be less profitable than the open hearth process. In other words, the transition from one process to another is not correctly described by moving along a given marginal productivity curve for capital; a shift in the curves was caused by technological progress.

The detailed investigation of the elasticity of marginal productivity curves and the classification of industries according to this elasticity is one of the most important tasks of an empirically founded theory of employment. It must be repeated that it is pure guesswork to assume, as the present writer does, that highly capitalistic industries have a smaller elasticity than the little capitalistic industries, particularly agriculture and mining. However, there is also a theoretical argument showing that under the conditions of modern industry the marginal productivity mechanism needs not always secure general long-run equilibrium. If to the Walras equation system, described above, a new set of equations is added, indicating the choice of methods of production as contingent upon the prices of productive services, then some of the obstacles are removed that may prevent meaningful solutions to materialize for the price and output magnitudes. But, by such an introduction of *variable* coefficients of production, a new difficulty is added at the same time.[18] The marginal productivity mechanism can be considered to solve, theoretically, the unemployment problem in the long run only if equilibrium can be obtained *for any possible combination of capital and labor.* But it is a well-known mathematical fact that this is the case only if economics of large scale are completely absent (or, to express it in a more sophisticated way, if the production function is homogeneous of the first degree); then, and only then, the sum of factor remunerations according to their marginal productivity would just equal the market value of output, creating neither profit nor loss to the entrepreneur, whatever the combination of labor and capital. If, on the other hand, economics of the large scale are present, general

[18] We cannot discuss here the complicated but most realistic case in which fixed and variable coefficients appear in the production of one and the same good. Neither can we analyze the peculiar instance of variability in which the ratio of productive services employed is always the same, however large the output of the firm, although the absolute amount of input per unit of output declines with rising output.

long-run equilibrium is still possible, but only for *specific* combinations of labor and capital. The implications of this theoretical proportion are not yet fully explored. One thing is certain, however; the marginal productivity mechanism, currently at work in absorbing labor if wage rates decline, may fail, by itself, to secure general long-run equilibrium, and to eliminate permanent unemployment in the neo-classical sense.

The present writer is quite far from denying that the two mechanisms discussed in the preceding paragraphs are significant in absorbing unemployment. However, in a stationary state, with equipment given as to quantity they will work only very slowly. Even if wage rates declined, it would take a long time before an entrepreneur starts moving the immobilized resources from one industry to another, and further time till the process is completed; likewise, a change in the methods of production under the influence of lower wage rates is slowly started and slowly executed. It is only in a progressive state that the two mechanisms obtain a greater weight by directing investment into channels in which the new equipment will employ more workers per unit than if the wage level has not declined. However, to the largest extent, it is the expansion of the economy *itself, i.e.,* the changes in the *quantity* of equipment, that all the time has absorbed displaced labor. Before commenting on this process, however, we must take time out to revise the tentative definition of the labor-saving device given in Section II.

VI. A Working Concept of Labor-Saving Inventions. Demand Elasticities Equal to and Larger than Unity

The introduction of the marginal productivity concept permits us to formulate a less objectionable definition of the labor-saving device; at the same time we shall be enabled to ascertain how far the results of the first section, obtained for a demand elasticity smaller than unity in industry A, are applicable to demand elasticities equal to and larger than unity. We describe, in the usual fashion, the production process in industry A by a marginal productivity function, here for labor (product measured in terms of current prices); the area below the curve indicates the volume of output, produced by coöperation of a given volume of other factors (here "capital") and a varying amount of labor (OL); the wage rate is considered equal to the marginal product of labor ML.

The technological progress in question would be indicated by a shift in the function, which at least partly would be upwards, and must satisfy the condition that the current output can be produced now with a smaller amount of labor OL_1 (*i.e.,* $OPML = OP_1M_1L_1$). Now if the progress is of the type indicated in Figure 1 (where the marginal productivity of labor is raised, for any amount of labor $< L$), then entrepreneurs will not be satisfied with producing the same output as before

Increase in the labor force is impossible under the second type[19] of technological progress depicted in Figure 2, where $OP_1M_1L_1$ again equals OPML, but where the new curve lies partly below the old one, to the left of L. Even under an infinitely elastic demand, it would be impossible to increase output to such an extent that no displacement occurs, unless, of course, the wage level declines. Since such a decline is usually not foreseen, the entrepreneurial plans would refer to employment OL′ and leave some amount of workers to be absorbed in B, C, etc., either, in the short run, by better utilization, or, in the long run, by an adjustment of the equipment.

We find, therefore, three alternative definitions of labor-saving devices installed in an individual industry. The widest one would include inventions that (1) reduce the amount of labor necessary to produce the current volume of output, *and* (2) cause, at the current wage level, a displacement of labor in the industry concerned, because of a small elasticity of *either* the new marginal productivity curve *or* of the demand for the goods produced; this definition would cover also type (1) above (Figure 1). A somewhat narrower definition would cover only such devices which, besides satisfying condition (1) above, cause a displacement because of the low elasticity of the marginal productivity function, *regardless* of the demand elasticity; this definition corresponds to type (2) above. The narrowest definition would include only devices which also would cause a displacement if the *current* wage rate is replaced by a *minimum* rate, fixed from the viewpoint of social justice.

If the present writer's conjecture is correct that, in industry proper, the marginal productivity of labor (in the long-run sense) tends to become less and less elastic the more capital is employed per worker, then the difference between the second and the third definition would be small, because even a substantial reduction of wage rates in A would not increase employment to a considerable extent. On the other hand, the difference between the first and second definition is very likely of great practical importance. Many devices which would not prove labor-saving if the market price of the commodity remained unchanged will become so on account of a low demand elasticity. Labor-saving inventions according to the first definition are, therefore, frequent, and only the compensatory effects of changes in the quality and especially in the *quantity* of equipment have prevented net technological unemployment from taking vast dimensions.

The present approach to a working definition of labor-saving inventions differs from the definition as elaborated, on the basis of Professor Pigou's work, by Professor Hicks.[20] Hicks calls an invention labor-

[19] We disregard here the further type in which, at the given wage level, it is most profitable to produce less than before.

[20] J. R. Hicks, *Theory of Wages* (1932), pp. 122 *ff*.

saving if the relation of the actual marginal productivity of labor to that of capital is lowered. He considers, therefore, the effect of the invention on the position of labor in the *whole economy,* assuming that the long-run adjustment of the quality of equipment is realized throughout, and that the ensuing changes in the price relations of commodities are insignificant; the question whether an invention creates unemployment, cannot arise, since all short-run unemployment is supposed to be reabsorbed. The exact relation of Hicks's definition to ours is complicated and cannot be discussed here for lack of space.

VII. Changes in the Quantity of Equipment

In actual fact, the reabsorption of displaced labor has been brought about, to by far the largest extent, by the accumulation and investment of capital; much more, indeed, than by the processes analyzed in the preceding sections. It never has been doubted by any theorist of rank that accumulation of capital in the form of fixed equipment raises the demand for labor; Marx especially,[21] consistently expounding the paramount ideas of the Ricardian system, depicts the capitalistic process as a race between displacement of labor through technological progress and reabsorption of labor through accumulation. The same view has been expounded with great clarity by a modern "marginalist" economist, L. V. Birck.[22] Quite naturally, this approach has not been considered satisfactory by the "harmonistic" economists of the Law of Markets School or Wage Fund School; displacement and accumulation are two largely *independent* factors, and it is impossible to predict the outcome of the race between the two on purely theoretical grounds. Marx believed, mainly on the basis of the experience of the twenties and thirties of the last century, that displacement more and more would outweigh accumulation, but the experience of the fifty years after the publication of the first volume of *Kapital* refuted his forecast. On the other hand, the experience of the last twenty years is less favorable, at least more controversial.

This side of the question need not be followed up in this paper. More important is a theoretical qualification. Without doubt the two contestants of the race are not *entirely* independent. A rise in aggregate income, generated by technological progress, would increase also the rate of accumulation (per time unit), and thus speed up the reabsorption of labor. However, the proposition that "permanent" technological unemployment is impossible does not find much encouragement in this

[21] K. Marx, *Kapital,* vol. I, chap. 23. In popular literature (and sometimes even in scientific writings), capital accumulation and technological progress are frequently confused, and Marx is credited with an opinion opposite to that which he really held.

[22] "Theories of Overproduction," *Econ. Jour.,* vol. 37, pp. 19-32.

fact. First of all, the favorable effect on accumulation can only materialize if a "moving equilibrium" is preserved in the economy; if, contrariwise, displacement of labor (in the absence of compensatory investment) by reducing consumers' purchasing power ushers in a depression, the favorable effects on accumulation of displacement might not materialize. Even more important is another reflection: the amount of capital needed per worker according to the "nature of the industry" is a timeless magnitude, in the sense that, though changing over time, it exists at any moment. Accumulation of capital, on the other hand, is a magnitude that possesses the dimension of time: so much *per week*, for example. The two magnitudes cannot be directly compared; the correct way of relating them is: it would take, at the old rate of accumulation, so many years of one man's wages to accumulate enough capital to re-employ one man; and at the new, presumably higher rate, this many years. Now what is important in this context is that the same process that reduces the number of years, by speeding up the rate of accumulation, also *increases* this number by enhancing the amount of capital per worker. Thus, even under favorable conditions (continuous prosperity), the rate of labor absorption through accumulation remains rather unaffected by the technological progress, and still can be considered as a largely independent variable.

The conclusion is inevitable: there is no mechanism within the framework of rational economic analysis that, in any situation, would secure the full absorption of displaced workers and render "permanent" technological unemployment in any sense impossible. How long the unemployment will last can be answered only by "economic biology," which, in an all-embracing economic-sociological approach, tries to evaluate the strength of all forces working in the society.

TAX SHIFTING IN THE MARKET PERIOD

By ELMER D. FAGAN

In the analyses of tax shifting, economists have concerned themselves primarily with the long-run period. Few of them have given attention to the short-run period; and none of them has studied the probable effect of taxes on prices in the market period.[1] The present article is concerned, therefore, with an analysis of the effect of taxation on the disposition and price of goods already on hand, under conditions of both pure and monopolistic competition.[2] In this analysis, it will be shown that taxes which affect the disposition of stock-on-hand also affect simultaneously the rate of output in the succeeding production period. In other words, it will be shown that the seller's market period plans and short-period plans are synchronized.[3] It is the reality of this synchronization which has dictated the substitution of a sequence analysis for the Marshallian static analysis in the present study.

In Part I of this analysis, it is assumed that sellers have on hand a highly perishable product for which there is neither the possibility of carry-over nor of self-use. In Part II, it is assumed that carry-over and self-use are possible. The two parts of the study are not, however, of coördinate importance. The problems considered in Part II certainly

[1] Throughout this study, market price refers to a price which is determined in the market period, *i.e., a* period in which the supply of a good cannot exceed the stock already produced and on hand.

[2] The reasoning and conclusions in this article are based upon the following general assumptions for both pure and monopolistic competition: (1) that taxes are general, (2) that taxes are viewed as permanent by taxpayers, (3) that taxes do not affect demand schedules, and (4) that "pure competitors" have identical cost and demand curves; and that monopolistic competitors also have identical cost and demand curves. The definitions of pure and monopolistic competition which have been adopted in this article are those which have been given by Professor Chamberlin in *The Theory of Monopolistic Competition,* 3rd ed., pp. 7-9. The analysis of the effect of taxation on price under monopolistic competition involves the following additional assumptions: (1) that there is complete price interdependence between sellers, and (2) that the effects of selling costs, the total of which is assumed to be constant, are represented in the demand curve for the product of each firm. Under these assumptions, any one firm may be regarded as a representative member for the group.

[3] In the present study, it is assumed that a producer's plans do not extend beyond the market period and the succeeding production period. The length of this succeeding period is assumed to be typical of the production of a particular commodity, with existing scale of plant. It is such a "succeeding period" which is called the "short-run period" in the present article.

correspond more closely to those encountered under actual conditions than do the problems considered in Part I. They also call for more elaborate analysis. Hence the major attention will be devoted to Part II.

The forms of taxation which are considered are those which, in the writer's opinion, are most likely to be imposed or increased in democratic states, *viz.*, specific sales tax, *ad valorem* sales tax, lump-sum tax, and net returns tax.[4]

I. Carry-Over Impossible

To the readers to whom this article is addressed, no argument is needed in support of the generalization that under conditions of pure competition and no reservation prices, price in the market period will not be affected by the imposition of any of the following forms of taxation: specific sales tax, *ad valorem* sales tax, lump-sum tax, net returns tax.

It is also clear that under conditions of monopolistic competition and no possibility of carry-over or of self-use, price in the market period will not be affected by either a lump-sum or a net returns tax. The effect on market price of a specific and an *ad valorem* tax under conditions of monopolistic competition requires, however, a brief explanation. The analysis is facilitated by the use of a diagram.

In Figure 1, volume of sales is measured along OX and price per unit along OY. For the volume of sales OH, marginal revenue is equal to

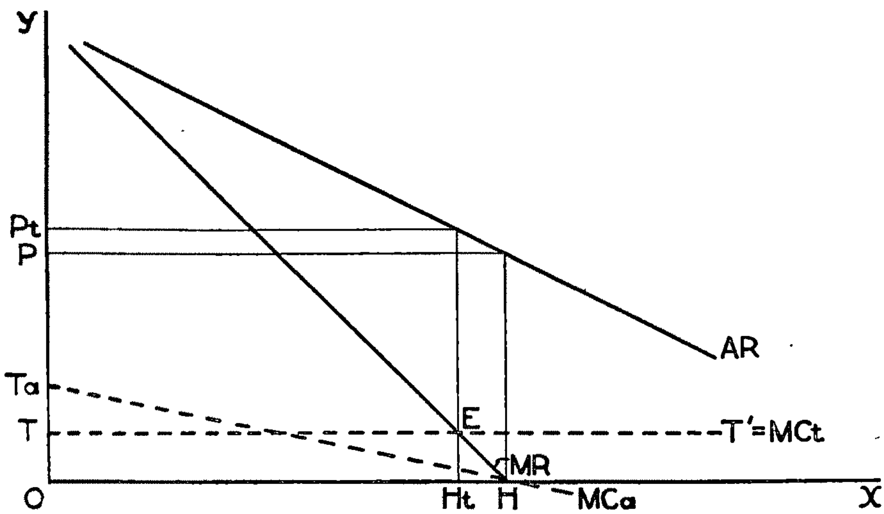

FIG. 1

[4] The effect of a gross receipts tax of a given percentage is, of course, identical with that produced by an *ad valorem* tax of the same percentage.

zero. Since cost of production, exclusive of tax, is "ancient history" in the market period, profits are maximized or losses minimized when marginal revenue is equal to zero. Therefore, the most profitable pre-tax volume of sales is OH. For this volume of sales, price is OP = $10.00. If a specific sales tax of $2.00, OT, is imposed, the marginal cost of the privilege of selling = TT′ or MCt. Marginal cost intersects marginal revenue at point E. This point of intersection establishes the most profitable post-tax volume of sales OHt. The decrease in the volume of sales from OH to OHt causes price to increase from OP to OPt.

If an *ad valorem* tax of 20 per cent had been imposed instead of the specific tax, the pre-tax marginal cost, *viz.*, zero, would have been increased for each several volume of sales by an amount equal to the product of the marginal revenue for each several volume of sales times the rate of the *ad valorem* tax. The imposition of an *ad valorem* tax would give the marginal cost curve TaMCa. This marginal cost curve intersects the marginal revenue curve at point H. The most profitable post-tax volume of sales is, therefore, identical with the most profitable pre-tax volume. Since the volume of sales is unchanged, market price is not affected. The tax is not shifted.

From the preceding analysis the conclusion is the following: Under conditions of monopolistic competition and no carry-over, a specific sales tax will, but an *ad valorem* tax will not, cause an increase in price in the market period.

II. Carry-Over Possible

A. Specific Sales Tax

1. *Pure Competition*

It is a familiar fact that under both pure and monopolistic competition the individual seller is in market equilibrium when his reservation price is equal to marginal revenue. Under pure competition, marginal revenue is equal to a price which is determined by the market equilibrium of demand and supply for the *industry*. The seller's curve of reservation prices is his market supply curve.

Variations in the volume of carry-over by the individual seller do not affect appreciably the marginal cost of storage, the relevant rate of interest, or the future price of the product. Since this is true, the seller might be expected, at first blush, to have only one reservation price for his total stock, *viz.*, a price equal to expected future price minus carrying costs. This would not be the case, however, if the seller faced either of the following conditions: (1) if he desired to retain a portion of his product for his own use, *e.g.*, a portion of his grain for seed; or

(2) if he made allowance for the increase in marginal risk aversion involved in an increase in the volume of his carry-over.[5]

In real markets sellers are usually affected by one or both of these conditions. It is clear that the presence of either or both of these conditions would produce for the individual seller a schedule of reservation prices rather than a single reservation price for his whole stock.[6] Such a schedule when represented graphically would result in a positively inclined market supply curve. The market supply schedule for the industry would be the sum of the amounts offered at each several price by all the sellers in the market. This schedule would also produce a positively inclined market supply curve for the industry. Price would be determined by the market equilibrium of demand and supply for the industry.

The individual seller will regard a specific sales tax as a deduction of an equal amount from the price of his product. Since the deduction would be identical in either the present or future market, it follows (1) that the tax would not alter the balance of economic attractiveness between the present and future market; (2) that it would not affect either the volume of sales or the price in the market period; and (3) that the tax would not be shifted. These generalizations must, however, be modified to allow for the influence of two factors. First, other things equal, sellers would probably prefer to wait and pay their specific taxes on future sales rather than to pay them in the present on present sales.[7] This preference for deferred taxation would, of course, cause a decrease in the volume of sales in the present market and would cause an increase in market price. The magnitude of the price increase would

[5] This risk refers to the risk incident to market fluctuations as distinct from such insurable risks as fire, flood, etc. The costs of the latter are, of course, included in the carrying costs. The term "risk allowance" when used in the following pages refers to the allowance for the former type of risk. The importance of this factor was suggested to me by my colleague Professor Edward S. Shaw who has shown the importance of the risk factor in his stimulating study: "The Elements of a Theory of Inventory," *Jour. of Pol. Econ.*, vol. xlviii, pp. 465-85.

[6] The fact that the presence of condition (1) would give an upward slope to the market supply curve calls for no explanation. The risk factor will also tend to give an upward slope to the supply curve. Since the seller is not certain that he will receive the "expected future price" for his product, it is clear that the greater the volume of carry-over, the greater the financial risk involved, relative to his total economic position. This increase in the proportion of his total resources subjected to risk would cause an increase in marginal risk aversion. Because of this increase in marginal risk aversion the seller might be willing to sell a portion of his stock at a price equal to the difference between (a) a price somewhat lower than the expected future price and (b) carrying costs. This would, of course, give an upward slope to the market supply curve.

[7] Hereafter, this preference for deferred taxation will be referred to as tax discount. The preference for present over future revenue from sales is a factor which played its part in the determination of the *pre-tax* balance of economic attractiveness and of the *pre-tax* allocation of sales between the present and the future market.

depend upon (1) the rate of the tax, (2) the relevant discount rate, (3) the length of the period of time between the present and future market, and (4) the elasticity of the market demand for the product. Second, the tax might also upset the balance of economic attractiveness between the present and future market, in favor of the latter, by causing expected future price minus carrying costs *and tax* to become greater relative to present price *minus tax* than was the expected future price minus carrying costs relative to present price. This factor, like the first, would cause an increase in market price.

2. *Monopolistic Competition*

No argument is needed here in support of the generalization that either a monopolist or a monopolistic competitor who is selling in two markets which are completely separated spatially, so far as buyers are concerned, will maximize his profits by producing an amount at which marginal cost of production for the entire amount sold in both markets is equal to "aggregate marginal revnue." The portion of the total output which will be allocated to each of the two markets will be an amount such that marginal revnue in the two markets will be equalized.[8]

These generalizations are also valid in the case of either a monopolist or a monopolistic competitor who is selling in two markets which are completely separated temporally. Let us assume that a monopolistic competitor has decided upon the most profitable disposition of his present stock between the present and future markets. In reaching this decision he must have considered the nature of both the marginal revenue and the marginal cost curves in the future market. In other words, his decisions concerning the volume of sales in the market period and in the short-run period must have been made simultaneously.[9]

The effect of the imposition of a specific sales tax on the seller's decisions and, consequently, upon market price can be shown most clearly by the use of a diagram.[10]

[8] For the argument in support of these generalizations, see Joan Robinson, *Economics of Imperfect Competition,* 1934, pp. 181-85. There Mrs. Robinson explains the nature of "the aggregate marginal revenue curve" which she employs. The present writer has adopted Mrs. Robinson's terminology.

[9] In this article, it is assumed that the expected future price from which the seller subtracts carrying costs and risk allowance in order to establish reservation price is the short-run price, *i.e.,* price determined in the short-run period when the short-run period is defined as in footnote 3.

[10] In what follows it is assumed that prices and marginal revenue are expected to be higher in market II than in market I. If, however, it were assumed that prices in the future market were expected to be lower than prices in the present market, the producer could not, of course, equalize marginal revenue in the present and future markets in cases where the attainment of this objective would involve the transfer of goods from the future to the present market. In such a case the producer's volume of sales in the present and future markets would be such that the difference between the marginal revenue in the two markets would be reduced to a minimum. This would be achieved, in such a

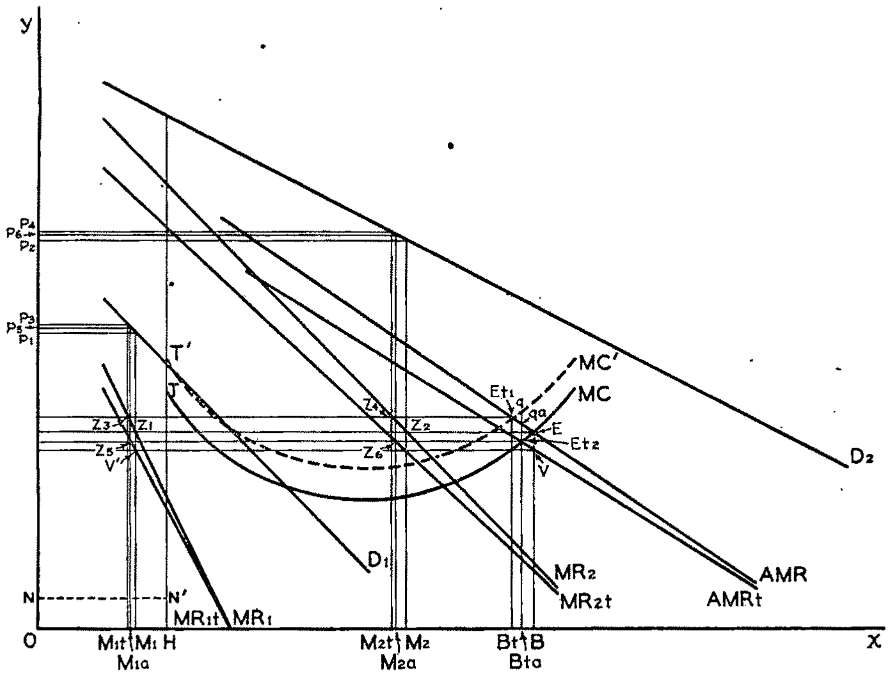

FIG. 2

In Figure 2, OX = output; OY = price; OH = stock-on-hand; OB = the sum of the volume of sales in both the present and future markets; D_1 = the demand curve or average revenue curve in the present market (market I); MR_1 = marginal revenue in market I; D_2 = the expected demand curve or expected average revenue curve in the future market (market II); MR_2 = marginal revenue in market II; AMR = aggregate marginal revenue in markets I and II, *i.e.* the sum of the abscissas of MR_1 and MR_2; and OHTMC = the marginal cost curve of the entire volume of goods offered for sale in both markets I and II. The marginal cost is, of course, zero for the stock-on-hand, OH. The marginal cost curve for the production in market II is TMC.

Marginal cost for the sum of the quantities sold in both markets I and II is equal to aggregate marginal revenue when the volume of sales in both markets is OB. The volume of sales in market I is OM_1. Marginal revenue at this volume in market I is M_1Z_1. Price in market I is OP_1. The volume of sales in market II is OM_2 or M_1B. Marginal revenue at this volume is M_2Z_2, and is equal to marginal revenue in market I. Price in market II is OP_2.

case, by selling total stock-on-hand in the present market and by producing and selling in the future market an amount at which short-run marginal cost would be equal to marginal revenue in the future market.

If a specific sales tax equal to TT′ is imposed, it will raise marginal cost at every point by the amount of the tax, giving the new marginal cost curve NN′T′MC′.[11] This new marginal cost curve intersects the aggregate marginal revenue curve AMR at E_{t1}. This point of intersection fixes the seller's new total volume of sales at OB_t. The volume of sales in market I becomes OM_{1t}, marginal revenue becomes $M_{1t}Z_3$, and price becomes OP_3. In market II, the volume of sales becomes OM_{2t} or $M_{1t}B_t$, marginal revenue becomes $M_{2t}Z_4$, and price becomes OP_4. Short-run price, *i.e.*, price in market II, is increased by an amount equal to P_2P_4. Market price, *i.e.*, price in market I, is increased by an amount equal to P_1P_3.

Figure 2 does not, however, give a completely accurate picture of the seller's volume of sales and prices in markets I and II, either before or after the imposition of the tax.

Before the imposition of the tax, a rational seller would have considered not only the marginal revenue in markets I and II but also (1) carrying costs, including interest, involved in holding goods from market I to market II, and (2) the increase in marginal risk allowance. These two factors would, of course, make for a larger volume of sales and a lower price in market I; and for a smaller volume of sales and a higher price in market II than the respective quantity and price magnitudes which are shown in Figure 2. The most profitable volume of sales in each of the two markets would be such that MR_1 would be equal to $MR_2—(CC + RA)$, when $CC =$ carrying cost, including interest, and $RA =$ risk factor.

After the imposition of the tax, the seller must consider an additional factor, *viz.*, the advantage of paying a specific sales tax in the future market rather than in the present market. In other words, the seller will discount a tax the payment of which can be made in the future. This new factor (TD), the desire to postpone the payment of a tax, will tend to decrease the volume of sales in market I and increase the volume of sales in market II. Its influence is directly opposite to that exercised by carrying costs and risk allowance. When all three factors are taken into consideration, the seller will maximize his profits or minimize losses by selling an amount in each of the two markets such that MR_1 will be equal to $MR_2 — (CC + RA — TD)$. If TD, tax discount, is less than $(CC + RA)$, the volume of sales in market I will be slightly greater than OM_{1t} and price will be slightly lower than OP_3. In market II, the volume of sales will be slightly less than OM_{2t} and price will be slightly higher than OP_4.

[11] The imposition of the specific tax TT′ would raise the marginal cost of *selling* any portion of OH in either market I or II by the amount of the tax. The marginal cost of selling any portion of OH would be raised from zero to ON, when ON = TT′.

B. AD VALOREM SALES TAX

1. *Pure Competition*

Other things equal, a seller will not hold a product for a future market unless he expects the future price to be higher than the present price by an amount sufficient to cover carrying costs and to offset risk allowance. The seller would see, therefore, that an *ad valorem* sales tax would be greater on the sale of a unit of product in the future market than on its sale in the present market. This fact would alter the balance of economic attractiveness between the present and the future market.[12] The seller would increase his sales in the present market (market I) and decrease his carry-over for the future market (market II) until price in market I, minus the tax, would be equal to expected price in market II, minus carrying costs, risk allowance, and the tax which would be assessed against the higher selling price.

The case can be explained most clearly by use of a diagram.

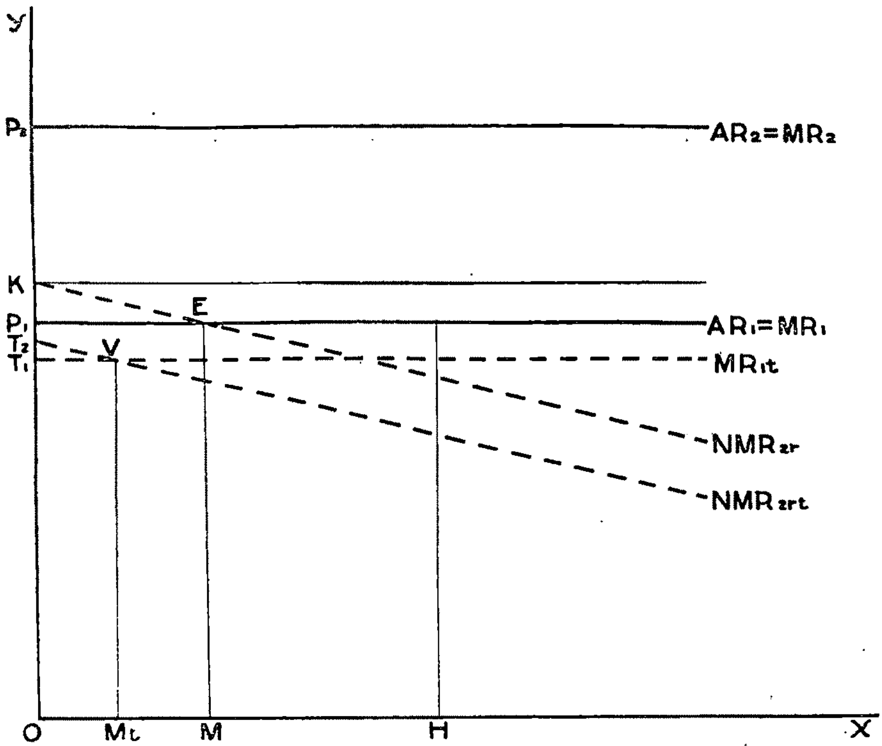

FIG. 3

[12] It is here assumed that the tax if paid on the sale of a unit of product in market II would be sufficiently greater than if paid on the sale of a unit of product in market I to more than offset the desire, other things equal, to postpone tax payment from market I to market II.

In Figure 3, OX = volume of sales; OY = price; OH = stock-on-hand; OP_1 = price in present market (market I); OP_2 = expected price in future market (market II); OK = expected future price minus carrying costs; NMR_{2r} = marginal revenue net of both carrying costs and risk allowance.

Before the imposition of the tax, the sales in market I = MH and carry-over for market II = OM. This distribution of stock-on-hand enables the seller to maximize profits or minimize losses. In market II, expected marginal revenue, net of carrying cost and risk allowance, is equal to marginal revenue and average revenue in market I.

After the imposition of an *ad valorem* tax of, say, 10 per cent, marginal revenue, net of tax of 10 per cent of $10.00, becomes OT_1 in market I. Marginal revenue, net of tax, *i.e.*, MR_{1t} is lower at every point than MR_1 by $1.00. In market II, the tax reduces NMR_{2r} at every point by an amount equal to 10 per cent of price in market II. Since price in market II is $15, NMR_{2r} is made lower at every point by $1.50. NMR_{2r}, net of tax, is represented by NMR_{2rt}. Marginal revenue, net of carrying costs, risk allowance, and tax, in market II is now equal to marginal revenue, net of tax, in market I when sales in market I are M_tH and carry-over for market II is OM_t. The tax causes the seller to decrease his carry-over for market II and to increase his sales in market I by an amount equal to M_tM.

Since the factors which affect the decisions of any individual seller are qualitatively representative of those which affect every other seller in the same market, there will be a reduction of carry-over for market II and an increase in sales in market I by all sellers of the product. Since the market demand for the product of the industry is negatively inclined, the increase in total sales of the industry in market I will cause market price to *fall*. The extent of the decrease in market price will depend upon (1) the magnitude of the increase in the total volume of sales in market I and (2) the elasticity of the market demand for the product of the industry. The seller will receive, net of tax, from the sale of each unit of product an amount equal to the new market price minus the tax.

A comparison of the effect on market price of a specific and an *ad valorem* tax shows that the former will cause an increase in market price. The latter, on the other hand, will cause a *decrease* in market price.

2. *Monopolistic Competition*

In the discussion of the effect on market price of a specific tax, under conditions of monopolistic competition it was shown how the seller must distribute the sales of his stock-on-hand between the present and

the future market in order to maximize profits or minimize losses.

Before the imposition of an *ad valorem* sales tax of, say, 10 per cent, the seller will maximize profits or minimize losses by selling his stock-on-hand, OH (Figure 2), by selling OM_1 in the present market (market I), and M_1H in the future market (market II). Production in market II will be HB. Total sales in both markets will be OB. Marginal revenue in market I will be M_1Z_1; and will be equal to marginal revenue in market II, M_2Z_2. Price in market I will be OP_1; and in market II, OP_2.

The imposition of an *ad valorem* sales tax will reduce the marginal revenue, net to seller, in both markets I and II and also the aggregate marginal revenue, net to seller, by a percentage equal to the rate of the tax. Under the assumption that the tax rate is 10 per cent, the marginal revenue curve, net of tax, in market I will be MR_{1t}; and in market II, MR_{2t}. The aggregate marginal revenue curve, net of tax, will be AMR_t.

The marginal cost curve for the total output in both markets, OHTMC, intersects AMR_t at point E_{t2}. This point of intersection fixes total sales at OB_{ta}. In market I, sales decrease from OM_1 to OM_{1a}. Marginal revenue, net of tax, becomes $M_{1a}Z_5$ and market price rises from OP_1 to OP_5. Carry-over for market II increases from M_1H to $M_{1a}H$. In market II, production falls from HB to HB_{ta} and sales decrease from OM_2 to OM_{2a}. Marginal revenue, net of tax, becomes $M_{2a}Z_6$ and price increases from OP_2 to OP_6.[13] The magnitude of the changes in price in the two markets is dependent upon (1) the rate of the tax, (2) the elasticity of the demand curves, (3) the slope of the marginal cost curve within the relevant range, and (4) the amount of stock-on-hand. If the marginal cost curve were absolutely inelastic within the relevant range, the volume of sales and price in market I would remain unchanged.[14]

It is now possible to compare the effect on market price of a specific and an *ad valorem* sales tax under conditions of monopolistic competi-

[13] Figure 2 does not indicate the influence of carrying costs, allowance for risk, nor the desire, other things equal, for the postponement of tax payment. The quantitative effect of the *ad valorem* tax on sales and prices as shown in Figure 2 are, therefore, not completely accurate. Complete accuracy can be achieved, however, by making the same modifications which were found necessary for the attainment of completely accurate results in connection with the diagrammatic analysis of the effect on market price of a specific sales tax under conditions of monopolistic competition. See above, p. 78.

[14] The reasoning in support of this generalization follows: If MC were absolutely inelastic it would lie along BE and would be cut by AMR_t at point V. Sales in markets I and II would be of amounts such that marginal revenue, net of tax, in these markets would be equal to BV. Since AMR_t is lower than AMR by 10 per cent at every point, EV is 10 per cent of BE. In other words, BV is less than BE by 10 per cent. Since BE and M_1Z_1 are equal, marginal revenue, net of tax, in market I must be 10 per cent lower than M_1Z_1. Marginal revenue, net of tax, in market I is exactly 10 per cent lower than M_1Z_1 at point V′. Since the abscissa of V′ is equal to OM_1 volume of sales and price in market I are unchanged.

tion.[15] It has been shown in an earlier section of this article that a specific sales tax causes a reduction in sales in market I and an increase in market price.[16] The specific tax will always cause these results under the following conditions: (1) a negatively inclined marginal revenue curve in market I, (2) a negatively inclined aggregate marginal revenue curve, (3) a positively inclined or an absolutely inelastic marginal cost curve within the relevant range, and (4) the intersection of MC′ and AMR at a point with an ordinate lower than the ordinate of the highest possible marginal revenue in market I.

An *ad valorem* sales tax also causes a decrease in sales in market I and an increase in market price unless the marginal cost curve is absolutely inelastic within the relevant range. In that case, the volume of sales in market I and market price are unchanged.

If at the time either a specific or an *ad valorem* sales tax is to be levied the specific tax is a percentage of market price which is equal to the rate of the *ad valorem* tax, the specific tax, under a wide range of conditions, will cause a greater decrease in sales and a greater increase in price than would have been effected by the imposition of the *ad valorem* tax.[17]

A comparison may now be made between the effect on market price

[15] For a comparison of the effect of a specific and an *ad valorem* sales tax on short-run price, see E. D. Fagan and R. W. Jastram, "Tax Shifting in the Short-Run," *Quart. Jour. of Econ.*, Aug., 1939, pp. 562-89. In this earlier article, unlike the present, the short-run period was treated entirely independently of the market period. The difference in the effect of the two forms of taxation on short-run price are, however, qualitatively the same in both cases.

[16] See above, pp. 76-78.

[17] The conditions under which the specific tax will cause the greater increase in price are the following: The aggregate marginal revenue for the equilibrium output which would be established following the imposition of the *ad valorem* tax must be less than the price per unit of the untaxed sales in market I. That is to say, $B_{ta}Q_a$ must be less than OP_1. The conditions under which the comparison between the effect on price of the two forms of taxation is being made are satisfied if it is assumed that market price, OP_1, in Figure 2 is \$20, that the specific tax is \$2.00, and that the rate of the *ad valorem* tax is 10 per cent. Under these conditions, $E_{t2}Q_a$ is 10 per cent of $B_{ta}Q_a$. Since $B_{ta}Q_a$ is less than OP_1, $E_{t2}Q_a$ is less than the amount of the specific tax $E_{t2}Q$ which is 10 per cent of OP_1. Now MC′ passes through point Q. Since MC′ slopes downward to the left of point Q, and since the negatively inclined aggregate marginal revenue curve, AMR, passes through point Q_a, MC′ cuts AMR at E_{t1}, a point which is to the left of points E_{t2} and B_{ta}. This point of intersection, E_{t1}, fixes the aggregate sales at OB_t. This volume of sales is less than OB_{ta}, the volume which would have resulted from the imposition of the *ad valorem* tax. Since the aggregate volume of sales is less under the specific tax, aggregate marginal revenue, including the tax, is greater. Since marginal revenue, including the tax, in markets I and II is always made equal to aggregate marginal revenue, including the tax, and since aggregate marginal revenue, including the tax, is greater after the imposition of the specific tax than it would have been under the *ad valorem* tax, it follows that the specific tax would cause a greater increase in marginal revenue, including the tax, in markets I and II than would the *ad valorem* tax. The greater marginal revenue in market I corresponds, of course, to a smaller volume of sales and a higher price. Therefore,

of a specific and an *ad valorem* sales tax under conditions of pure competition on the one hand and monopolistic competition on the other. Under monopolistic competition, it has just been shown that the specific tax, under a wide range of conditions will cause a greater increase in market price than would have been effected by the *ad valorem* tax. Under pure competition, a specific tax will cause an increase in market price. The *ad valorem* tax will cause a *decrease* in market price.[18]

C. LUMP-SUM SALES TAX

1. *Pure Competition*

Since the lump-sum tax is a tax of a fixed amount, the seller is not able to solve the problem of the most profitable post-tax distribution of his stock-on-hand between present and future markets on the basis of marginal adjustment. It is an all-or-nothing proposition. More specifically, the seller must sell nothing at all in market I in order to escape the payment of the lump-sum tax in the present market; and if he should sell all his stock-on-hand in the future market, there would be no *additional* taxes in that market.[19]

The seller's post-tax decision concerning the most profitable distribution of his stock-on-hand between markets I and II will depend upon the answer to the question: If total stock-on-hand were sold in market II, would probable receipts be sufficiently greater than receipts from the pre-tax allocation of sales of the same stock minus the lump-sum tax in market I, to more than offset additional carrying costs plus the money equivalent of additional risk aversion? If the answer to this question is Yes in the case of an appreciable number of sellers, the volume of sales in market I would decrease, and market price would increase.[20] If the answer is No in the case of all or of all except an inappreciable number of sellers, the most profitable post-tax volume of sales in market I would, of course, be identical or virtually identical with the most profitable pre-tax volume, and market price would be unchanged.

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it may be concluded that the specific tax would cause a greater increase in market price than would the *ad valorem* tax.

[18] The comparison of the effect on market price of a specific and an *ad valorem* sales tax under conditions of pure competition does not involve the assumption that at the time either tax is levied the specific tax is a percentage of market price which is equal to the rate of the *ad valorem* tax. See above, p. 80.

[19] It is clear that the tax would not alter the balance of economic attractiveness between markets I and II under any of the following assumptions: (1) that the tax were levied on the privilege of producing as distinct from the privilege of selling the product; (2) that the seller expected to have no further dealings in the product after he had disposed of his stock-on-hand; and (3) that the tax were levied only once in a fiscal period which was as long or longer than the relevant market and short-run periods combined.

[20] If the answer were Yes by all the sellers, market price would cease to exist.

2. *Monopolistic Competition*

Under conditions of monopolistic competition the seller must make his market and short-run decisions simultaneously, since any change in the volume of carry-over from market I to market II will effect a change in the price of his product in both markets. The pre-tax decision regarding the volume of sales in market I and the volume of production and sales in market II is the one under which the sum of the net returns in markets I and II is maximized. It follows, therefore, that the imposition and payment of a lump-sum tax of equal amount in both markets I and II will not cause the decision to be altered.[21] Since the tax is a lump-sum *sales* tax, it can be legally evaded by making no sales. For example, if no sales are made in market I no tax is paid in market I; and no *additional* taxes are paid in market II for the privilege of selling all or any portion of stock-on-hand in that market.

The seller will make no sales in market I if by so doing the reduction in the pre-tax sum of (1) gross receipts in market I and (2) quasi-rent in market II will be less than the amount of the lump-sum tax levied in market I.[22] The amount of the tax, the magnitude of the gross receipts in market I, the position and elasticity of the marginal revenue and marginal cost curves in market II are the factors concerning which the seller must have data before he can determine whether he would lose less by paying the tax in both markets and leaving his pre-tax allocations unchanged or by selling nothing in market I, paying no tax in market I, and altering volume of production and sales in market II. In the former case, market price would be unchanged; in the latter, it would cease to exist.

D. Net Returns Tax

1. *Pure Competition*

It is clear that the imposition of a proportional net returns tax will not alter the most profitable pre-tax distribution of stock-on-hand be-

[21] A seller who expected to sell only his stock-on-hand and then go out of business would sell none of his product if the lump-sum tax were greater than the largest possible gross receipts from his product. A seller who expected to remain in business over a period of time long enough to cover both the market and short-run period would close down if the amount of the lump-sum tax or taxes levied were greater than the sum of (1) gross receipts in the market period plus (2) quasi-rent in market II. Under such circumstances, he would, of course, dispose of his stock-on-hand if the lump sum tax levied in the market period were less than his largest possible gross receipts from the sale of his product. Under our assumption of identical demand and cost curves for all monopolistic competitors, any tax would affect all monopolistic competitors in the same manner.

[22] The seller will treat gross receipts in market I as net returns since the costs of producing such gross receipts are past costs.

tween markets I and II; and, therefore, will not affect either market or short-run price.[23]

The rate of progression of the tax on net returns might, however, be sufficiently steep to cause a change in the volume of sales and price in markets I and II. For example, let it be assumed that before the imposition of the tax the most profitable distribution of an individual seller's stock-on-hand was 50,000 units in market I and 5,000 units in market II. Let it also be assumed that sales in market I and market II would take place in two different fiscal periods. The sale of such a large percentage of the product in market I might yield net returns of a magnitude which would subject the seller to a tax rate so high in market I that his net returns, net of tax, would be less than if he were to sell less than 50,000 units in market I and more than 5,000 units in market II. If the tax affected in this manner a number of sellers sufficient to decrease appreciably the total volume of sales in market I, the negatively inclined market demand curve for the product of the industry would be cut at a point upward and to the left of the original point of market equilibrium; and market price would be increased.[24]

If the pre-tax distribution of the stock-on-hand of an appreciable number of sellers were such that they would sell a small percentage of their stock-on-hand in market I and a large percentage in market II, the imposition of a sufficiently progressive net returns tax would cause an appreciable reduction in the total volume of sales in market II, an appreciable increase in total sales in market I, and a *decrease* in market price.

2. *Monopolistic Competition*

If a seller has decided upon the most profitable pre-tax distribution of his stock-on-hand between markets I and II, the imposition of a proportional net returns tax would cause no change in volume of sales or price in either market. The pre-tax allocation of sales between the two markets would still yield the seller the greatest possible net returns, net of tax.

The imposition of a net returns tax with sufficiently progressive rates would, however, disturb the pre-tax allocation of product between and prices within the present and future markets. The reasons for this disturbance are the same as those which were given in the discussion of

[23] In this article, net returns means the excess of total monetary returns realized in any fiscal period from the sale of any quantity of product over the monetary rewards necessary to secure the services of the agents required for the production of that quantity of product. In what follows, it is assumed that the seller's total net income is from the sale of one commodity.

[24] It is conceivable that certain tax rate structures would result in a smaller total volume of sales in both markets than the seller's pre-tax allocations to these markets.

the effect on market price of a progressive net returns tax under conditions of pure competition. The fact that the reasons for the post-tax reallocation of stock-on-hand between markets I and II are the same under both pure and monopolistic competition does not mean, however, that the nature of the reallocation would necessarily be the same in the two cases. For example, under pure competition, the infinitely elastic demand for the product of the individual seller would make it impossible for him to decrease his realized net returns in either market I or II except by selling less in one market and more in the other. Therefore, the desire to decrease taxes paid in market II by an appreciable number of sellers will *always* be followed by an appreciable increase in total volume of sales in market I and a decrease in market price and conversely.

Under monopolistic competition, on the other hand, the degree of elasticity of the negatively inclined demand curves faced by the individual seller in markets I and II and the nature of the marginal cost curve in market II would determine whether a decrease or an increase in sales in either respective market would reduce realized taxable net returns and thereby increase net returns, net of tax.

USE OF FLEXIBLE TAXES TO COMBAT INFLATION[1]

By ALBERT GAILORD HART

Whether or not they are so intended, federal tax collections and expenditures unavoidably have profound monetary effects. Taxes may be regarded as analogous to Federal Reserve open-market sales, expenditures as analogous to open-market purchases. But besides being on a much larger scale than Federal Reserve operations, Treasury operations are more powerful, dollar for dollar. Federal Reserve operations are purchases and sales of securities which are almost perfect money substitutes. But the objects of Treasury operations are very unlike money. What the Treasury "sells" when it collects revenue is tax receipts; its purchases range from planes and typewriters to cancelled checks for old-age assistance. While Reserve operations affect only the composition of the public's capital assets, Treasury operations impinge, furthermore, on income accounts. Both these differences give Treasury operations powerful leverage.

It is no novelty to suggest that since federal budgeting has monetary repercussions it should be guided partly by monetary objectives. Manipulation of federal expenditures to stimulate employment has been practical politics ever since 1933; and manipulation of taxes is a familiar idea at least to academicians. But the war emergency calls for a shift in emphasis. Since the middle of 1940, defense has gripped the expenditure side of the budget, and monetary considerations can no longer affect the bulk of federal spending. If the budget is to be used consciously for monetary control—which at present means to check inflation—flexibility must be on the revenue side.[2]

The Treasury, the Congress and the general public are of course familiar with the idea that taxes are anti-inflation weapons—an obvious lesson of the world's long list of experiences with inflationary war finance. But the application of this idea in American public policy has taken the form merely of a rule of thumb—Secretary Morgenthau's

[1] The writer is indebted to his colleague E. D. Allen for criticism and suggestions.

[2] The writer does not mean, of course, that federal powers over the monetary situation are confined to taxation. Not to mention credit controls, a government borrowing program which stimulates saving can do a good deal to check inflation. But effects upon saving are likely to be second-magnitude unless loans are made compulsory; and compulsory loans may be regarded as sweetened taxes. (*Cf.* the writer's paper on forced loans at the Philadelphia meeting of the Tax Institute, Dec. 1, 1941, appearing in the forthcoming volume on *National Defense and Taxation.*)

rule of covering two-thirds of expenditures by taxation—and even this rule has not so far been made effective. Viewed as a standard for monetary policy, this is plainly inadequate. Economists should consider carefully whether it is not possible to recognize monetary needs explicitly as a guide to tax policy, and to reshape the federal tax system to permit following that guide.

I. Tax Mechanism for Monetary Control

In present circumstances, the monetary use of taxation means draining off spending power until the remainder is brought into line with consumer goods output. As we shall see presently, the scale of this drain must be enormous. Consequently its fair apportionment among the population is very important.

In view of the prospect that total consumption, in physical goods terms, must fall rather than rise during 1942, "fair apportionment" implies that nobody can expect to be left in a position to increase his consumption unless he is increasing his output, and that even people who increase their output cannot expect to increase consumption unless either their present consumption standard is very low or their contribution to added output very great. The only way to apply this rule is through income taxes.

The Timing Difficulty

Since the Treasury announced late in November that no further increase would be made in taxes on 1941 incomes, the regular income tax revenue of 1942 has been a settled thing; for taxes on 1942 incomes will not begin to come in, in the regular course, before March of 1943. While taxes collectible in 1943 will not be completely ineffective in 1942, their influence is somewhat unreliable,[3] and may even work in the wrong direction if they encourage individual households to stock up before their surplus over current needs is cut into by taxation.

One possible way to avoid this time-lag, of course, is to turn away from income taxes to sales or wage taxes, both of which are prompt in collection. But aside from the powerful arguments in equity against these taxes as major sources of war revenue,[4] it must be remembered

[3] *Cf.* U. K. Hicks, "Lags in Tax Collection," *Rev. of Econ. Studies*, vol. viii, no. 2 (Feb., 1941). Increasing 1942 corporation taxes will of course influence dividends during 1942; but unless earmarked cash is held against these taxes spending power may be increased through business investment. Individuals apparently react to taxes as they become payable, not as they accrue.

[4] The heavy burdens imposed by existing taxes of these and other regressive types upon low-income taxpayers are shown in Twentieth Century Fund, *Facing the Tax Problem* (New York, 1937); G. Colm and H. Tarasov, *Who Pays the Taxes?* (T.N.E.C. monograph no. 3, Washington, Supt. Docs. 1940); and A. G. Hart, E. D. Allen, *et. al.*, *Paying for Defense* (Philadelphia, Blakiston, 1941). A fresh analysis of the problem of estimating tax

that both create powerful stimuli to demands for wage increases; while sales taxes, under present conditions, constitute price increases in themselves.

A Currently Collected Defense Tax on Individual Incomes

To combine the virtues of promptness and fairness calls for a currently collected tax on individual incomes—taxing 1942 incomes in 1942—along the lines proposed by the Treasury late last year. Following Canadian precedent, it would be most appropriate to label such a tax a "National Defense Tax." While such an innovation involves serious administrative difficulties,[5] they are no worse than those involved in alternative procedures; and since a tax of this character has permanent value, the work of solving these difficulties will not be wasted in the long run.

The basic technique of prompt collection is to withhold tax at the source of income wherever feasible—*i.e.*, for corporate dividends, for corporate and government interest payments, for other forms of property income wherever handled by fiduciaries or agents, and for the excess of salaries and wages over exemptions. For taxpayers whose income cannot be reached at the source—*i.e.*, for self-employed business and professional men, farmers, owners of rental housing, etc., possibly for employees of very small firms—a workable substitute can be found by requiring quarterly payments based on the annual income tax return for the previous year. Exemptions under Defense Tax should be fixed, as they are in Canada, below the regular income tax level—perhaps at or below $1,000 for a head of family.[6]

Equalization

Under a promptly collected tax, the final tax liability of each taxpayer cannot be computed precisely at the time of collection, but only approximated. Inequities among taxpayers of like income and family status can be cleared up, however, by an annual equalization at the time regular income tax returns for the year are filed in the following March. This equalization will involve extra assessments for some taxpayers, tax credits or small cash refunds (presumably through redemption of stamps) for others.

burdens is being prepared by C. Hildreth and the present writer for a projected statistical bulletin.

[5] For the nature of the difficulties and a demonstration that they are soluble, see Dr. Walter Heller's paper for the Tax Institute meeting of Dec. 2, 1941, Dr. Heller's memorandum filed in the Senate Finance Committee's *Hearings . . . on Revenue Revision of 1941* under date of August 13, 1941, the present writer's memorandum in the same place, and *Paying for Defense*, chap. XVI.

[6] On the need of lower exemptions, see *Paying for Defense*, chap. XV, and the forthcoming statistical bulletin referred to above.

The chief question of principle in planning an equalization procedure is whether to base both Defense Tax and regular income taxes on the same definition of "net income," or to permit deduction of one tax in computing net income taxable under the other. On the former system, which would be the present writer's first choice, the sum of Defense Tax and "normal tax" rates, plus the highest applicable surtax rate, would give marginal rates exceeding 100 per cent for some taxpayers as soon as Defense Tax exceeded 21 per cent. If all such combined rates exceeding 100 per cent were treated as *equalling* 100 per cent, the effect would be to impose a ceiling on the income left after tax. This ceiling would fall automatically as Defense Tax rose.[7]

Given a powerful tax of this type, the government would be armed with an effective weapon against inflation. A prompt and substantial revenue response would flow from any change in the level of tax rates or exemptions. Even with unchanging rates and exemptions, such a tax offers a limited automatic adjustment against inflation; for, with rising nominal income levels, not only a larger amount of income but also a larger proportion of the total would become taxable.

II. Criteria of Policy

Supposing a tax mechanism of this sort to be in working order, how should it be used? Since we are starting from a tax level below that necessary to check inflation, and since rising arms production implies an increasing inflationary pressure, we may safely answer, "More and more!" But to make this answer more precise calls for examining the objectives of policy.

Three Objectives

Monetary and fiscal policy should evidently aim toward:

1. A large volume of war production.

[7] Here are a few sample results:

Combined Defense Tax and Normal Tax Rate	30%	40%	50%
Level of "surtax net income" above which marginal rate is 100%	$300,000	$70,000	$32,000
Surtax at that level, 1941 rates	183,280	30,980	9,900
Normal tax, allowing maximum earned income	11,944	2,744	1,224
Defense Tax, assuming regular income tax exemptions	78,000	25,200	14,720
Residue of surtax net income	$ 26,776	$11,076	$ 6,156
Total net income, after taxes, adding in typical exemption (for head of family plus two dependents)	$ 29,076	$13,376	$ 8,456

These results somewhat understate the maximum amount left after taxation, since part of income-tax "deductions" are actually expenditures of which the taxpayer gets the benefit. This applies particularly to mortgage interest and property taxes of home-owners.

2. Within the limits of resources not needed for the war, a large volume of civilian production.
3. Avoidance of inflationary price increases.

As among these objectives, the first has a clear priority. As between the second and third, the second is presumably more important; but most economists would probably recommend sacrificing it to some extent to the third, if conflict arises.

Both production objectives, for reasons well known to economists, are likely to be favored by rising prices. Hence they may call for mild inflation, conflicting with the price objective. Since the impact of government spending is directly upon war production, however, even a very drastic tax program aimed to block inflation will not take hold very strongly in this field. The fiscal policy issue is principally between the price objective and civilian production.[8]

Price Dispersion and the Level of Civilian Prices

The degree to which price and production objectives conflict turns largely on the dispersion of prices. The presumption that a rising price level favors employment rests on the observations that prices do not all move parallel and that *absolute* price decreases are hard to achieve in many fields without unemployment. In short, to keep employment at a high level it is desirable that few absolute reductions of prices be called for. But since *relative* price adjustments must take place, it is a matter of arithmetic that, if there are fewer absolute decreases, there must be more absolute increases. Stabilizing the relatively falling prices implies raising the general index. How much the general index must rise depends partly on the dispersion of relative price movements, partly on how tenderly we wish to treat the relatively falling prices.

In the actual situation, it is plain that there is an upward drift in the prices of metal products, rubber products, silk stockings, woolen clothing, foods suitable for Lease-Lend shipments, and housing in defense areas, relative to more bulky and perishable foods, amusements, cotton clothing, and rents outside defense areas. This relative price shift has some value in drawing resources into the critical branches of production and diverting purchases to things which are relatively easy to

[8] Deflation in the sphere of civilian production can make indirect contributions to war production by creating unemployment and thus increasing incentives to find uses for men and equipment in war production. American history provides a shining example of the military value of unemployment in the naval efforts of the Revolution and War of 1812, when unemployment among sailors and fishermen created a formidable fleet of privateers, besides helping naval recruiting. But deflation is not properly selective in its pressure upon civilian industry, taking no account of the extent to which resources can actually be shifted to defense. The use of priorities and direct output restrictions (like that upon automobiles) in lines where resources are highly transferable has all the military advantages of deflation, without all its disadvantages for consumption.

produce, and still more as the only available procedure for deciding who is to get scarce goods, in the absence of consumer rationing.[9] Unless a widespread rationing system is to be adopted, these relative changes cannot and should not be resisted. If their income-effects on the sellers of the goods in question are unwelcome, the appropriate remedy is a system of excises-à-la-Henderson (in effect, special excess-profits taxes), applying to goods made scarce by war.

Suppose that the general rule is to try to prevent a downward drift of absolute prices from becoming so widespread as to affect more than 10 per cent of the weights of the B.L.S. cost-of-living index. If the average rate of downward drift for these falling prices is not to exceed, say, 2 per cent per month, the average monthly rate of increase for the other nine-tenths of the index cannot much exceed 0.2 per cent per month without raising the total index. This is a rather modest allowance, so far as the writer can judge. To give room for appropriate relative adjustments, without a serious proportion of absolute declines, is likely to call for an average monthly increase of 0.2 per cent to 0.5 per cent in the cost-of-living index.[10] If the price dispersion proves greater than this estimate implies, the rate of rise in the index required to keep down the weight of absolute decreases may pass the critical level (probably between 0.5 per cent and 1.0 per cent monthly[11]) at which price increases generate a "spiral." In this event, a clash between price and production goals cannot be avoided.

Administered Prices

The likelihood of such a clash is enhanced by the large element of "administration" in the determination of many of the wage rates and

[9] Until the last few weeks, journalistic advocates of "price control" as the remedy for inflation have shown no signs of realizing that we cannot simultaneously (1) have a national shortage of a commodity, (2) prevent its price from rising, and (3) let every buyer purchase all he chooses—*i.e.*, reduce the total of consumption without reducing any of its parts. This curious arithmetical error made price control appear as the last stronghold of "business as usual."

With the actual beginning of consumer rationing, price control begins to be seen more in perspective. But there still seems to be little realization that rationing must cover the bulk of consumer spending to be an effective barrier against inflation, and that tires, automobiles, and sugar cover only a very small sector. British experience indicates that the mere organizational difficulties of rationing will keep it from being very effective against inflation during 1942.

[10] This is frankly a guess. Studies of price dispersion in the period since February 1941 might improve it; but it is hard to evaluate the effect of our actual involvement in the war. We are operating so far outside the range of recent experience that the writer is very skeptical about the possibility of an accurate forecast of the necessary price dispersion.

[11] Increases more rapid than 0.5 per cent monthly in the B.L.S. cost-of-living index never continued long enough to show up in the recorded figures between 1920 and 1939; but through most of World War I the rate of increase exceeded 1.0 per cent monthly. See *Paying for Defense*, p. 182.

farm prices which constitute costs of production for producers of civilian goods. Even though more man-hours of coal-mining labor, or more wheat, could readily be found for sale at existing prices, the United Mine Workers in the one case and the federal government in the other are quite capable of raising miners' hourly rates and the price of wheat. In so far as the costs "administered" to higher levels are those of the civilian goods labeled above as relatively falling, maintaining the output of those goods comes to depend on an absolute increase in their prices. To prevent a decline in employment then calls for a corresponding acceleration in the rise of the general index, and the danger of a spiral is accentuated.

Since the people who "administer" prices keep one eye on the market, taxation can do something to block increases of this sort. General taxation of personal incomes, draining off spending power, will hold down profits; and excess profits taxes will catch the more conspicuous profits as earned. Still further, success of income taxation in checking the rise of living costs will reduce the demand for countervailing rises in money incomes. Thus tax policy can create a setting for a "reasonable" settlement of demands for higher wages and raw materials prices. But the primary responsibility in this field is not upon the monetary authorities but upon the government agencies and economic interest groups directly involved. To get the maximum benefit from monetary and fiscal measures against inflation, wage-rate increases should be discouraged unless the union demanding them can show (1) that a shortage exists and more man-hours of qualified labor cannot be had at existing rates; (2) that the union itself is not creating the shortage by its own exclusive policy or restrictive working rules. On the side of farm prices, where "administration" is actually done by the government, the rule should also be to avoid increases except where a shortage exists and where the shortage is not itself created to boost prices. In both fields, of course, many specific increases are urgently needed to increase supplies; prominent examples are cheese prices and seamen's wages.

Giving Ground before Administered Prices

If the groups responsible for holding down the administered prices do not keep them in check, most students of monetary problems would probably agree that monetary and fiscal policy should give ground and permit a corresponding upward drift of prices. Taxation should not be relied upon to stop price increases based on trade-union or farm-group action.[12]

If we constructed an index number of cost-prices underlying the pro-

[12] In the terminology of J. M. Keynes's *Treatise on Money,* monetary and fiscal measures are effective against "profit-inflation" but not against a spontaneous "income-inflation."

duction of civilian goods, under such conditions, it would have an upward drift for two reasons: (1) as with finished-goods prices, there is a natural dispersion of changes in cost-prices, and the relatively-falling group cannot be pushed wholesale into absolute decreases without adverse effects on employment; (2) as we have just seen, "administered" cost-prices in the relatively-falling group are likely in fact to be pushed upward from the supply side.

To a first approximation, the task of fiscal policy may be defined as the stabilization of the cost-of-living index—not absolutely, but relative to an index of cost-prices so composed and so weighted as to represent cost-prices affecting different consumption goods in the same proportion that the prices of the latter enter the cost-of-living index.[13]

This first approximation rule, however, may lead policy astray for two chief reasons: (1) the sheer technical defects of the index numbers used might be serious enough to give their ratio a misleading drift; (2) the relation of prices of materials and labor services to per-unit costs may be considerably altered by wartime changes in industrial patterns. Any policy based on the ratio of the two index numbers should therefore be at least slightly modified in the light of employment figures. If there came to be noticeable unemployment of types which defense could not absorb but freer consumer spending could, it would be desirable to set taxes lower than the formula would indicate. On the other hand, if employment were satisfactory while cost-prices and selling-prices were rising in line with each other, it would be worth imposing heavier taxes in hope of checking the cost-price advance.[14]

Relative Drift of Costs and Selling-Prices

The argument above limits the rôle of fiscal policy to keeping prices of civilian goods in line with their cost-prices. But this limited objective is very important in itself. For 1942, we must expect a substantial rise in national income relative to our supposed cost-price index, resulting from increased employment, longer hours, "upgrading" of laborers and similar shifts which contribute to the physical volume of total output. But while a corresponding rise in total output is scheduled, the war effort will not only absorb the increase but bite deeply into present

[13] This redefined price objective has a strong formal parallelism to agricultural "parity." But its implications for income distribution are very different, since it is thought of as enforced by manipulating an income tax rather than by manipulating the flow of goods to consumption.

[14] This presumption for a downward drift of selling-prices *relative to cost-prices* does not contradict our original argument for permitting a rise of selling-prices on account of price dispersion. Implicit in the original argument was an assumption that dispersion among cost-prices implied an upward drift in their average; and the allowance for an upward drift of cost-prices made in this section of the text thus takes care of the dispersion of selling-prices.

civilian supplies. Even if wage rates and so on did not increase, we should have increased spending power confronting reduced civilian supplies. This would certainly raise living costs.

The danger of spiral inflation lies in the fact that as living costs rise *relatively* to wages, wages tend to rise *absolutely* in a vain attempt to compensate. We have seen enough in 1941 to be clear that the danger of a spiral "income inflation" is no mere bugbear, even though full employment is not yet reached; and rising employment will further increase the danger. Choking off the relative rise of living costs is an essential part of the remedy.[15]

III. Necessary Revenues and Tax Rates

To hold inflation in check, we shall need more taxes to drain off spending power. But how much more? So far, the only answer offered by this paper is qualitative: enough to restrict the price rise as narrowly as possible, in view of price dispersion and the behavior of administered prices, without excessive unemployment.

Our monetary situation is packed with uncertain factors. We cannot accurately forecast, for example, the course of bank credit or the future of saving and of private investment.[16] Accordingly, no clear-cut answer can be found in advance of experience; and in the end the solution must be found by cut-and-try methods. But it is both possible and urgent to estimate the general order of magnitude of the requirements.

War and Consumption

To begin with figures of relative certitude, we spent rather over 12 billion dollars in defense in calendar 1941. In view both of the rapid acceleration during 1941 and of our actual involvement in the war, it is conservative to estimate that our war effort will absorb 20 billion dollars worth more in 1942 than in 1941, at 1941 prices. Our economy will also produce more—presumably by 10 to 15 billion dollars. Making optimistic allowances for the effect of increased total output and of drafts on private investment, it is hard to believe less than 5 billion dollars worth of the added war effort must be at the expense of consumption goods.[17]

[15] This assumes, as does most of the argument of this article, that we are not going to set up a full-blown rationing system at once.

[16] For an inventory of sources of uncertainty, see the writer's paper on "Safeguards against Inflation," *Rev. of Econ. Statistics*, May, 1941, pp. 85-86.

[17] Needless to say, the cut in physical consumption is not logically a mere residual. Large masses of resources used in 1941 for consumption (conspicuously for metal products) are both adaptable to defense and nonessential for civilian use. These must be transferred. On the other hand, we have some resources (chiefly in farming) which are specialized for consumer goods uses and will be more fully used in 1942. Increased flows of food, amusements, etc., will presumably go part way to offset transfers of metals, chemicals and textiles to defense. But 5 billion dollars is a conservative estimate of the net loss to consumption.

While the war will reduce physical output of consumption goods, it will increase money incomes. The increase in total production assumed above implies a rise of 10 billion dollars or more in money incomes, at 1941 wage rates, etc. Of this increase, 6 or 7 billion dollars would normally be added to spending. With 1941 tax revenues, 1942 spending would thus be 11 billion dollars or more too high relative to 1942 consumption goods output. If a price rise relative to wage rates of, say, 5 per cent is to be tolerated, there will yet remain some 7 or 8 billion dollars of excess spending to be disposed of.

In addition, if income taxes are to be the means of adjustment, we must allow for inter-group shifts of consumption. Assuming a 100 billion dollar national income and a $1,000 head-of-family exemption, at least 2 or 3 billion dollars of the income increase will accrue to people who remain below the taxable family income level.[18] The principle of ability-to-pay taxation implies letting families below exemption limits keep and enjoy any income increase they can capture. The income-tax-paying groups, therefore, must absorb not merely the whole cut of total spending but also a further cut to permit an expansion of at least 2 billion dollars in lower-income-bracket consumption. The total cut in spending required of income-tax payers is thus at least 9 billion dollars relative to what they would normally spend with their 1942 incomes, or perhaps 5 billion dollars relative to their spending in 1941.

Revenue Requirements

When a family's income is reduced, the effect is divided between a reduction in spending and a reduction in saving. For families in the income-tax brackets, much of the effect is bound to be upon saving. While no definite forecast can be entirely safe, it is very unlikely that the curtailment of savings will be less than a third of the taxes levied.[19] To reduce spending by 9 billion dollars thus calls for at least 14 billion dollars of additional revenue in 1942, compared with 1941.

Of the 14 billion dollars, about 7 billion dollars can be expected from revenue measures in force at the end of 1941—divided about equally between effects of 1941 enactments and effects of rising income levels.

[18] It must be borne in mind that a $1,000 head-of-family exemption gives a normal family with two children $1,800 of tax-exempt net income; and with allowance for "deductions" of normal proportions this means that such families will rarely be taxable unless total cash income exceeds $2,000. On a comparable exemption basis for a 90 billion dollar income, *Paying for Defense* (p. 148) finds 56.3 billion dollars (62 per cent) accruing to persons taxable. The effects of a higher general level of incomes in carrying more people above exemption limits are roughly balanced by the assumption in *Paying for Defense* of a $200 credit per dependent, instead of $400.

[19] In *Paying for Defense* (pp. 128-29) the effect of a similar type of tax is estimated to be half upon spending and half upon saving. The sharper effect on saving assumed here reflects partly the larger scale of the tax in question and partly the intentional bias of the calculation here in progress toward understating tax requirements.

Another 1 billion dollars or so may be looked for from special excises of the type proposed by Leon Henderson, upon goods made scarce by defense. This leaves 6 billion dollars to be found by the proposed Defense Tax, at a minimum figure. In view of the prognosis for a continued rise of production and incomes well through 1942, it is probable that requirements will be heavier in the second half-year than the first.

Tax Rate Requirements

Since the proposed exemption level is well below the range of income tax experience of the federal government, the amount of income which would be taxable under Defense Tax is hard to estimate. If taxpayers enjoy two-thirds of the national income, about 33 billion dollars is likely to be taxable.[20] The 6 billion dollars of Defense Tax revenue mentioned above would thus imply an 18 per cent rate of tax. For every additional billion by which spending had to be curtailed, an additional 5 per cent or more of Defense Tax would be needed, unless exemptions were further lowered.

Probable Errors of Estimation

The estimates presented above have intentionally been given a bias toward understatement of tax requirements. Comparatively modest changes in the figures would make the tax rates called for look much more formidable.

To begin with, it would not be unreasonable to put the decrease in consumer goods output compared with 1941 at 6 instead of 5 billion dollars, the increase in money incomes (at 1941 wage-rates, etc.) at 11 instead of 10 billion dollars, the increase in spending at 8 instead of 6 billion dollars. This would raise the excess of spending to 14 instead of 11 billion dollars. After allowing a modest price increase, there would still be a net excess of 11 billion dollars or so. The additional consumption of the low-income groups not reached by tax could easily be put at 3 instead of 2 billion dollars, so that taxpayers must be called upon to cut spending 14 billion, instead of 9 billion dollars. If we put the effect of taxes on saving at 40 per cent instead of 33⅓ per cent, the additional taxes called for would be 35 billion dollars, or 28 billion more than existing measures will yield.

On this revised set of hypotheses, which is no more extreme in an upward direction than the previous set in a downward direction, the Defense Tax could not block inflation at any tax rate whatsoever,

[20] Of the 56.3 billion dollars shown as accruing to taxpayers under the roughly comparable situation sketched in *Paying for Defense*, p. 148, 30.3 billion dollars is absorbed by understatement, non-cash income exempt from tax, deductions, and exemptions, leaving rather less than half taxable. This proportion taxable should rise somewhat with national income at a higher level.

without a further reduction of exemptions. Even cutting exemptions to half the level suggested would probably not increase the tax base to much over half the national income, so that more than half of all taxables might have to be taken.[21]

Effects on Business Savings

In the argument above there is an implicit assumption that changing taxes upon individual incomes will not deter corporations from paying out a normal proportion of their profits. There are considerable indications, however, that even 1941 rates had such an effect; and the rates of Defense Tax mentioned above would doubtless intensify it. Whether dividends fail to reach the stockholder because they are not paid out or because they are taxed away, his spending will be reduced. But corporate savings, since they build up assets for the stockholder, will displace his individual savings more than would taxes of equal amount, while affecting spending less.[22]

Per billion of revenue actually raised by a Defense Tax, the effect upon spending would be greater than the estimates above would suggest. But per point of tax the effect might or might not be greater. If, say, a $1,000 dividend payment was withheld to avoid $250 of Defense Tax, the effect on a middle-income stockholder would probably be to reduce his personal savings by, say, $500 to $950, and his spending by $50 to $500, according to his situation. The effect on spending might or might not be greater than if the dividend and the $250 tax were both paid.

To avoid inequities between stockholders who were and were not able to avoid taxes by letting corporate incomes be plowed back, some device for taxing undistributed profits to the stockholders would be needed. Such taxation is thus a corollary of a Defense Tax upon incomes, if Defense Tax rates are to be substantial.

IV. Fiscal Management under Mandatory Rules

The criteria of policy discussed above would be suitable for a discretionary authority backed by the full confidence of the Congress and the public. They might conceivably serve Congress if it were decided to make frequent adjustments in Defense Tax by special enactment. But they call for so much exercise of judgment in application that they could not well be used directly as a basis for mandatory instructions to the Treasury.

[21] At this very low exemption level, the great bulk of the population would be taxable. But exempting $250 per adult plus $400 per child would still remove a large fraction of the national income from taxation, not to mention the huge losses of tax base through understatement, failure to tax non-cash income, and deductions.

[22] The effect of corporate savings is analogous to that of forced loans.

The question now arises whether a working substitute can be devised which will lend itself to mandatory arrangements. In short, we must look for a formula which is at once:

1. Definite enough to limit Treasury discretion and if possible to forestall litigation;
2. Simple enough to be explained to the general public;
3. A good approximation in its effects to operation under the criteria described above.

Pre-Determined Rates

The established system of revenue-raising is of course to pass a tax with definite pre-determined rates. These rates may be set until further notice, or they may be enacted on a step-wise system, with an increase to be effective at some stated future date.

As we have noted, even a flat-rate tax to apply through the war period would mitigate inflationary pressures. At a 100 billion dollar level of income, 1 per cent of tax represents an annual revenue between 300 and 350 billion dollars. As nominal income rose through inflation, not only the absolute revenue but also percentage of national income drawn in would rise somewhat. But if the initial rate were far short of what was required to stop inflation, this automatic braking effect would be far too small to bring the price level to rest within any measurable period.

In view of the prospect of increasing expenditures and of the political tendency to take off the little dog's tail in two bites rather than one, provision for a rate increase at some pre-determined future date is a relatively likely arrangement. So long as this prospect is not made an excuse for inadequate initial rates,[23] such a system will improve the time-shape of the tax revenue. With perfect foresight, it might even be made to serve all the purposes of fiscal policy. But in view of the gigantic uncertainties already noted, there is no use expecting to lay out an optimum timetable of taxation in advance. Pre-determined rates cannot do the job adequately, for lack of flexibility.

Price-Index Formulas

If a discretionary authority is ruled out, the economist's natural first thought for a flexible arrangement is a price-index formula. The present writer has made suggestions along this line on several occasions.[24]

[23] As Homer Jones points out in his paper for the Tax Institute meeting of Dec. 1, 1941, there is not much sense in the idea of introducing heavy taxes gradually "because they are so painful," in view of the painfulness of the alternatives.

[24] *Economic Policy for Rearmament* (Chicago, 1940, pp. 26, 33); House Ways and Means Committee, *Hearings . . . on Revenue Revision of 1941*, pp. 335-36; *Paying for Defense*, chap. XVII.

If we could assume that wages and farm prices were stable, except as relative increases helpful to defense took the form of absolute increases, such a price-index formula ought to turn out reasonably well. But as the argument above has indicated, a tendency toward "income inflation" through organized pressure on cost-prices would require complicating the formula and basing it on the relation of two index numbers rather than on one alone. This procedure is both unduly hard to interpret to Congress and the public and also liable to give undue weight to idiosyncrasies of the index numbers selected. In addition to this defect, there is a serious political defect—the danger that the mere presence of a tax formula geared to living costs would accentuate wage and farm-price pressures.[25]

Government-Expenditure Formulas

Less congenial at first thought to an economist, but still very promising economically, are proposals in political quarters for formulas hitching tax rates to government expenditures. These have been framed in terms of annual adjustments to secure an "automatically balanced budget."[26] But there is no reason why this type of formula should not be applied both to standards of coverage below 100 per cent (for instance to the Treasury's two-thirds rule) and to quarterly or even monthly adjustments. The Treasury could be required to set a Defense Tax Rate for the oncoming three-month period which would bring total receipts up to any specified percentage of total outlays for the period. It would be possible also to provide for automatic lowering of exemptions to widen the tax base if necessary. Exemptions could be lowered either step by step as rates rose, or only after rates had reached a certain ceiling, say 40 or 50 per cent, without satisfying revenue requirements.[27]

[25] This point was emphasized by Carl Shoup in his "Choice of Tax Measures to Avert Inflation," *Rev. of Econ. Statistics,* May, 1941, p. 89. If anything, it is more serious if wage rates and farm prices as well as living costs enter into the formula.

[26] One such proposal, apparently not much noticed by economists, already has a legislative history. A resolution (S. R. 22) was agreed to by the United States Senate on Feb. 13, 1941, creating a committee of three "to find ways and means for an automatically balanced budget." This committee (consisting of Senators Tydings, Thomas and Holman) reported two months later, submitting two draft bills and a draft constitutional amendment as a basis for discussion. One of these bills (in a Committee Print of April 29, 1941, numbered J.313715-A) proposes enacting fifteen alternative schedules of taxes, each framed to raise 5 per cent more revenue than that preceding it on the list, and giving the Treasury mandatory instructions to put into force at the beginning of each year that schedule which will raise "the required amount of revenue" according to a standard set up in the bill.

[27] While Senator Tydings' tentative scheme does not confine itself to income taxes, the illustration of a difference between successive tax schedules which is presented in the committee report runs in terms of lowering income-tax exemptions.

The Danger of Taxing Too Much

The economist's natural hesitation to endorse such a government-expenditure formula or "automatically balanced budget" springs from his knowledge that it is possible to tax too much. Under unfavorable conditions, attempts to balance the budget may increase unemployment (and incidentally may defeat their budgetary object by doing so).

But taxing too much is not the number one danger of the year 1942. Taxes on the books in December 1941 are expected to bring in about 14.5 billion dollars (cash basis) for the fiscal year 1941-42 or about 18 billion dollars for calendar 1942. At the lowest defensible estimate of outlays, this means covering out of taxes 45 per cent of outlays for the fiscal year, or 37 per cent for the calendar year. The 6 billion dollars of Defense Tax mentioned above as minimum requirement would bring tax coverage for calendar 1942 to about 49 per cent; to bring it to 90 per cent would take a Defense Tax of over 25 billion dollars. Even at a 90 per cent coverage, moreover, the cash deficit would be about as great as it was in the late winter of 1941, when inflation began to take hold.

A Safeguard against Over-Taxing

In any event, a simple safeguard against taxing too much can be set up by introducing a single discretionary element into the system.[28] The Treasury should be authorized to fix a lower rate than that called for by the formula, on the basis of a double finding of fact:

1. During the latest three months the B.L.S. living-costs index averaged not more than 1 per cent above its level in the last preceding three-month period; *and also*
2. During the latest three months, nonagricultural employment averaged either:
   a. Less than at the end of 1941 or
   b. As much as 1 per cent below the last preceding three-month period.

In such a situation, this limited exercise of discretion could scarcely be objectionable.

Needless to say, such an escape clause could come into play only if the proportion of outlays covered by taxes was very large. But the existence of such a clause would make it safe to aim high—even at 100 or 90 per cent of expenditure. There would be no advantage at all in fixing the proportion to be covered below 80 per cent. Thus such a policy

[28] This ingenious device for combining the simplicity of an expenditure formula with the substantive advantages of a rather complex price-index-employment formula was suggested by the writer's colleague Walter W. Wilcox.

would permit holding the growth of public debt to the minimum compatible with high levels of production.

Flexibility under Rules

This system of mandatory rules promises the advantages of a discretionary system on the lines outlined earlier in this paper, with a minimum of confusion in administration and public relations. It is calculated to provide the maximum anti-inflationary effect which taxes can yield without damaging production. If the "administered" prices are properly handled, it is capable of keeping the pace of price rise close to the rate below which the safeguard comes into play—presumably below the critical rate of 0.5 per cent monthly, once collection mechanism and rates are in force.

The two basic ideas involved are simple and close to the views of the general public:

1. It is desirable to "pay as we go" and limit the growth of public debt;
2. It is desirable to keep the weight of taxation from creating avoidable unemployment.

Either of these ideas alone is somewhat dangerous (the second, at present, more than the first). But a compromise along these lines should be workable both politically and economically.

FISCAL POLICY AND THE NATIONAL INCOME: A REVIEW

By CHARLES O. HARDY

Professor Hansen and Professor Villard have written books[1] which deal with the same theme—the use of national fiscal policy to control the levels of money income and of employment and productive activity. They are based in general on the same fundamental assumptions, such as the causal relation running from money income to real income; the tendency of an increase of saving to pull down money income and an increase of investment to increase money income; the extreme importance of stabilizing employment at a high level, and of reducing present inequalities of economic power; the probability that income taxes will tend to be paid out of savings and consumption taxes out of income that would otherwise be consumed; and a strong propensity for total income to decline from year to year in the absence of a public policy to stimulate expansion.

The two volumes bring home to us forcibly the instability of political-economic relations. Both are penetrating analyses, written for scholarly audiences, and combine a broad scope with careful attention to detail, and both were published in 1941. Yet neither author thought it worth while to give more than passing notice to the phase of his subject which by the end of 1941 was the principal topic of discussion; namely, the prevention of an unduly rapid rise of money income. For both authors, the fiscal and monetary problem was the prevention of deflation.

Obviously, if public expenditures are to be effective as an income stimulant they must be so financed as not to decrease other expenditures accordingly. Hence the choice for both authors is between deficit expenditures financed by borrowing from banks with excess reserves or from holders of capital balances (or conceivably by the issuance of paper money), and taxes that do not decrease either private consumption or private investment. Villard's emphasis is on deficit financing, the estate tax being the only important tax which he finds free from a suspicion of having "income-decreasing" effects. Hansen, however, is more concerned about the possible future disadvantages of the accumulation of government debt, the piling up of idle money in private

[1] *Fiscal Policy and Business Cycles.* By Alvin H. Hansen. (New York: Norton. 1941. Pp. ix, 462. $3.75.)

Deficit Spending and the National Income. By Henry Hilgard Villard. (New York: Farrar and Rinehart. 1941. Pp. ix, 429. $3.50.)

hands, and the indefinite lowering of interest rates; hence he pays more attention than does Villard to the possibility of financing income-creating expenditures through taxes that do not decrease private expenditures.

Both books contain good sketches of the history of post-war monetary policy, and both reach the conclusion that monetary policy alone is insufficient to bring about recovery from a deep depression, whereas fiscal policy is an adequate instrument. I am not prepared to dispute either conclusion, but both books leave me with the impression that monetary policy has lost the vogue which it had in the twenties, and fiscal policy has gained popularity, largely because monetary policy has been appraised by what was not accomplished, and fiscal policy by what was accomplished, during a period when both were being used together. If the slowness of recovery in 1933-39 discredits monetary policy as an instrument of control, the rapidity of recovery in the same years can hardly validate fiscal policy for the same purpose.

Both authors include state and local finance in the scope of "fiscal policy." Villard presents as an appendix an able original study of state and local deficit financing for recent years. Valuable as this material is for the use of students of public finance, I believe it has little bearing on the main theme, the relation of fiscal policy to the formation of income. State and local finance cannot properly be used as an instrument for controlling the level of income, for the simple reason that the costs of such a policy are localized and the benefits are diffused. In this respect, local finance is like individual and corporation finance. Expenditures by the national government may be justified by their effect on the national income, but an individual corporation, or a municipality, or a state, acting independently of others, cannot make expenditures and expect that it will be compensated by an increase of its income resulting from the stimulated increase of general income. The difference between national and local finance parallels the difference between central banking and private banking. Deficit spending for the sake of income-stimulation is practicable only for a national government, and probably only for that of a large country.

Multipliers.—Both Hansen and Villard devote much space, naturally, to the nature of the multiplier, and both make valuable contributions to the understanding of this knotty problem. Hansen presents an illuminating series of hypothetical model sequences, combining the effects of the multiplier and the acceleration principle. Villard criticizes half a dozen other writers' work, and contributes an excellent discussion of the character of "leakages."

With respect to statistical *ex post* calculations of the actual multiplier, Villard's treatment is less satisfactory. On page 232 he comes

very near to saying that such calculations are worthless, a conclusion with which I am inclined to agree. Any such investigation involves comparing an unknown product (the difference between actual income and what income would have been in the absence of the deficit), with a partly known multiplicand (the part of government expenditure which is financed by non-income-decreasing borrowings or taxes), on the basis of the general income velocity of money, which may or may not be the same as the marginal income period of new money.[2]

But Villard yields to the temptation to compute an empirical multiplier. He chooses the period from January 1934 through June 1936 because he believes that in that period there was little or no effective inducement for private investment, ignores the "hang-over" effect of government expenditures made in 1932-33, compares the excess of income in the second quarter of 1936 over the last quarter of 1933 with the quarterly average income-creating government expenditures of the period, and so deduces a multiplier above 6.[3]

Although Villard sees the uncertainties involved in such calculations, he seems to overrate the significance of this particular computation. He says (p. 361) that although we cannot be sure that there were neither indirect effects nor independent changes in other factors during this period, the calculation indicates that the increase in national income following 1934 "was not inconsistent with a multiplier as high as 6." This, of course, is true, but it is not clear that it was inconsistent with any other multiplier that might be suggested. In the next sentence the author's modest appraisal grows into the following claim: "Thus we know that it is possible for deficit spending to have a multiplier as high as 6, given the proper conditions, which shows that the theoretical work on the subject has not overestimated the possibilities of deficit spending." In other words, because it is possible for all factors combined

[2] One minor difficulty seems to have been generally overlooked. The general income velocity of money is computed by comparing income with the total supply of money, including that which is in capital balances. The income velocity that is needed for the purpose of calculating the multiplier is the velocity of that part of the new money which does not leak into capital balances. The income period relevant to the multiplier calculation is therefore shorter than the general income period. Except for very high leakages, however, the difference is not so great as that which J. M. Clark suggests on other grounds, namely, 2 months as against 4. Villard's criticism of Clark (pp. 151-53) seems to be sound.

[3] Villard does not explain why he compares the rate of income flow at the beginning of the period with the rate at the end, instead of cumulating additions to income for the whole period to get the product which corresponds to the definition of the multiplier. The two methods would give the same result if expenditures were steady and the multiplier were stable. In fact, however, the multiplier computed in this way is highly unstable. If we cut off the period at the end of 27 months instead of 30, we get a multiplier below 3. Cumulation of total income also gives a multiplier of about 3 (keeping Villard's simplification of substituting average for actual quarterly expenditure).

to increase the national income over an indefinite period of time by 6 times the amount of the deficit, we know it is possible for deficit spending alone to produce the same effect!

Villard, Hansen, and all the authors whose work is discussed by Villard compute multipliers on the assumption that leakages are permanent. In fact, however, leakage is in general simply the postponement of expenditure. The accumulation of a capital balance, whether by saving or by liquidating capital assets, does not imply a decision to hoard funds forever. What is involved is not a simple leakage ratio, but a schedule of the rate of leakage and the rate at which the funds that have leaked return to circulation. With any rate of leakage above zero, the capital balance accumulated from the leakage approaches 100 per cent as the rate of secondary expenditure approaches zero; but if there is any return flow out of the capital balance it will grow larger as the capital balance increases, and a point will be reached at which the return flow exceeds the leakage from the diminished secondary expenditure. The expenditures series, therefore, will not approach zero as a limit, but a perpetual cycle of rising and falling secondary expenditures will appear. Hence the value of the multiplier will always be infinity, even if leakage is 100 per cent, unless the return flow is zero.

Secular stagnation.—The most important issue raised by Hansen and Villard is the doctrine of secular stagnation, which is accepted by both authors as a proven thesis. The case for permanent deficit spending, or government spending financed by non-income-reducing taxation, stands or falls with this doctrine. If, for more than transient reasons, uninvested savings accumulate because there are not enough outlets for them (in the form of new investments that are likely to yield enough net income to make investment worth while), public policy must be directed either to discouraging saving or to supplementing income. On the other hand, if genuine investment opportunities, comparable to those which absorbed the enormous investments of the nineteenth and early twentieth centuries, are being neglected chiefly because entrepreneurs and savers now prefer the safety of capital balances to the possible gains of investment, research should seek to explain the decay of the propensity to invest, and public policy should be directed to encouraging the expansion of private investment.

Though for the moment obscured by the urgent problems of national defense, the issue is of paramount importance in planning for the postwar era. The quest of private profit through the investment of private savings gave us, in four generations, the greatest increase in mass standards of living that has occurred in the world's history; before we relinquish the hope of revival and further progress along these lines, and create the appropriate institutions for a society that cannot find uses

for its savings, the facts should be made perfectly clear. Particularly it should be clear that the failure of private investment to absorb savings in sufficient volume to maintain income is a result of technological factors, population changes, or other conditions outside the realm of public policy.

In my judgment the arguments advanced by adherents of the doctrine of secular stagnation are not strong enough to justify its acceptance as a basis of public policy. Some of the reasons for my skepticism may be summarized as follows:

1. If at a given time new investment is being held down by the lack of investment opportunities, existing profitable investments would be expected to command an unusually high price. The prices of stocks would be high and the yield of bonds would be low. The relative valuation placed by the market on very safe securities and risky ones, however, would be the same as in periods of high investment activity. In fact, this was not true during the depression of the thirties. Like other prolonged depressions, this was a period when the yield of very safe securities tended to be low and the risk premium tended to be high.

2. If the doctrine of secular stagnation were true it should be evidenced by keen competition for such new opportunities as do appear. Such inventions as are made should find backers more readily than in prosperity eras. In fact, the opposite was true throughout the "stagnation era," as in previous long depressions.

3. We should expect to find the transition from a period of abundant investment opportunity to one of inadequate outlets to be gradual. In fact we passed abruptly from the new era of perpetual prosperity to the new era of perpetual stagnation.

4. It must be remembered that the only "opportunities" that are ever conspicuous, or even certain, are those that have been seized upon. Had investors in the past refused to take the risk of building railroads, we should not know now that this opportunity existed all through the past century.

5. The explanations currently advanced to explain the inadequacy of investment outlets do not seem adequate. Hansen points out that of the three great historical outlets for savings—population growth, territorial expansion, and technological advance—only the third can be counted on in the future. He underestimates, I think, the importance of a fourth field, namely, the multiplication of equipment of types already known. Without any new invention whatever, the output of almost every factory and farm could be greatly expanded if capital were available to equip the average unit as well as the best are already equipped. A drainage ditch is not a new invention, but thousands of farms are inadequately drained. In the past the competition for capital arising

from the new opportunities has always prevented the complete utilization of techniques that were already common knowledge. Until the slackening of demand for extensive investment has made it possible to equip all industry so fully that every worker's output is the maximum that is technically feasible, we shall still have outlets for investment.

6. The decline of population growth means that less capital need be absorbed in maintaining the existing standard of living, but it also means that the possibilities of raising the standard of living are so much the greater, and the quest of higher standards does not seem to have lost its urgency. To provide one additional room for every family in the course of a decade would require far more investment in housing than is rendered unnecessary by failure to maintain our previous rate of population growth.

7. In fact, the technical situation in the housing field, viewed as an outlet for investment, has changed for the better in the last ten years, quite apart from the accumulation of a backlog through the slackening of building activity. Obsolescence of houses has gone on more rapidly in the last decade than at any time in the preceding half century. Air-conditioning, insulation, multiple baths, and built-in equipment constitute felt wants; the difficulty in supplying them is not on the demand side, except as demand is controlled by the shrinkage of income which is the result of the impairment of investment. At the same time, the development of automobile transportation has created opportunities for relocating the population and these opportunities have hardly been scratched.[4]

Finally, there is the question whether other conditions outside the hypothesis under review furnish an equally reasonable explanation of the slowness and weakness of the revival of investment after the recession of 1929-32. The only rival theory which it seems worth while to discuss relates to the changed impact of governmental regulation upon the inducement to invest—including under this caption taxation, wage policy and labor relations, price and rate controls, and supervision of the markets for money and capital. Of these, the most important are the two first mentioned.

[4] Villard comments (p. 344 footnote) that inventions likely to be exploited soon appear to involve expansion at the expense of existing industries; for instance, television or cheap airplanes would involve expansion at the expense of the motion picture and automobile industries. This, of course has always been true. The railroad and the automobile expanded at the expense of the stage coach and the horse and buggy; kerosene expanded at the expense of tallow candles and illuminating gas at the expense of kerosene and electricity at the expense of illuminating gas. All this is irrelevant. Investment in a new industry has never been retarded seriously by investors' concern over the fate of obsolescent industries. The destruction of capital values in old industries does not contract the flow of income to offset the expansion caused by the building of new industries.

The convincingness of a theory of politically-induced stagnation rests largely upon the fact that a pronounced change of governmental policy coincides neatly with the appearance of the phenomenon which we are trying to explain. The recession of 1929-32 was very severe, but if recovery had been equally rapid the accepted explanations would run in terms of business cycle theory rather than economic maturity. The slowness of recovery and the abortive character of the upswing of 1936, though they do find parallels in nineteenth century history, are sufficiently out of line with the usual business cycle sequences to make students look beyond business cycle theory for the explanation. But this is just the period in which public policy (unquestionably controlled by democratic processes) has for the first time in our history been expressed in a consistent series of policies that are unfavorable to investment.

This is not a blanket description of all New Deal policies. The bank rehabilitation policy, the program of direct loans to industry, and probably the unbalancing of the budget and the devaluation of the dollar were favorable to investment, and the N.R.A. was intended to be so. But after 1934, and especially after the failure of the "planned" recovery of 1936, public policy has evidenced more concern for social reform, regardless of its effects on recovery, than for the promotion of recovery.

Historically, until recent years, government, though operating through democratic machinery, was in fact dominated, in its economic aspects, by the ideas of investors and entrepreneurs. The rising standard of living of the masses of the nineteenth century was not the direct result of governmental pressure in the direction of higher mass incomes; it was the indirect result of the prosperity of business interests which were compelled by competition rather than by government action to share the fruits of progress with the remainder of the population.

In recent years, on the other hand, economic legislation has been the expression of a strengthened equalitarianism which seeks at the same time to push up the incomes of the masses by direct action and to cut down the incomes of the wealthy. For the first purpose the chief interest is labor policy; for the second purpose it is tax policy. The surtaxes on large incomes, even before the inception of the defense program, coupled with a failure to provide a system of averaging incomes, destroyed most of the incentive for the wealthy to invest in any but the safest securities. Discriminatory taxation on corporations cut heavily into another source of equity capital. At the same time, wage and labor policies were exerting steady upward pressure on costs.[5] In short, in a

[5] Hansen, in common with many others, argues (pp. 334-35) that when a wage reduction cuts down cost it equally reduces demand. This would be true only on the

period when we have had a deficiency of employment offers and a superabundance of would-be employees, we have tried to correct the balance by making the position of the employee more attractive and that of the employer less attractive. We depend on the profit motive to call forth a supply of investment, risk-taking, and employment opportunities, but direct our national policy to minimizing the share of profits in the national income. We depend on the minority of large incomes to provide the initiative and bear the risks incident to economic progress, but we strive to eliminate those inequalities.

This is not to say that the policies enumerated are necessarily unwise. They have advantages to offset against the disadvantages noted. If, as seems to be the case, we are deciding to commit an ever-increasing proportion of economic responsibility to political rather than to business leadership, economic life can go on under techniques of control that will be developed in line with the new ideals. My point merely is that a propensity of the capitalists to seek safety rather than profit, to shirk the responsibilities of investment, is a natural consequence of governmental policies which are inappropriate to an economic order controlled chiefly by private initiative under the profit motive.

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assumption that profits are never spent by the recipients. It is not sufficient to show that wages are likely to be respent more rapidly than profits. Unless all of an increase of wages is a net addition to demand, industry as a whole can recover from the enhancement of buying power only part of its added costs; the balance must come out of profits. This is of no great importance in a period of expansion and rising profits, but in a period when the problem is to maintain investment, a wage increase forced by governmental or trade union action must be counted a retarding factor.

COMMUNICATIONS

Rebuttal to Professor Crum and Mr. Musgrave

In the September, 1939, issue of this *Review* appeared two articles in reply to my article in the March, 1939, issue entitled, "The Double Taxation of Savings."[1] One of these replies was by Professor W. L. Crum of Harvard University and was entitled, "On the Alleged Double Taxation of Savings."[2] The other was by Mr. Richard A. Musgrave, also of Harvard, and was entitled, "A Further Note on the Double Taxation of Savings."[3]

In my article, as elsewhere, I have contended, as did John Stuart Mill, Alfred Marshall, A. C. Pigou, Einaudi, and others, that to tax savings and then to tax the fruit of those savings is virtually to tax the same thing twice. It is taxing not only the fruit but also the tree which bears the fruit, the tree being of no value except as it bears the fruit.

For purposes of illustration the simplest case is that type of saving which is invested in a perpetual annuity. Under an income tax which treats savings as income, a 50 per cent tax on the saving reduces by 50 per cent the subsequent fruit of that saving and then in the subsequent years, it takes 50 per cent of the remaining fruit, making actually 75 per cent in all, instead of the nominal 50 per cent. In like manner, a tax of nominally 10 per cent amounts actually to a 19 per cent tax, and a nominal 1 per cent tax comes to a shade under 2 per cent, whereas, in the case of a person who neither saves nor dissaves, 50 per cent is actually 50 per cent, 10 per cent is 10 per cent and 1 per cent is 1 per cent.

As to the strict mathematics of this, including less simple cases, these have been covered in the earlier writings to which I referred the reader in the article criticized by Professor Crum and Mr. Musgrave.

In the March, 1939, article I also suggested, as a merely incidental phenomenon, that a saver might be tempted to migrate from a state where spendings-plus-savings are taxed to a state where only spendings are taxed; and that a dissaver might be tempted to migrate in the opposite direction: from a state where his actual spendings are taxed to a state where spendings-minus-dissavings are taxed; and that people who neither save nor dissave would have no preference as between the two states, other things being equal.

But my basic comparison was between the saver and dissaver in one and the same jurisdiction—a jurisdiction which taxes spendings-plus-savings; whereas Mr. Crum's comparison is basically (though with variations) between savers in one state and savers in another state, the two states having equal budgets, equal savings, and equal spendings, but one of the states taxing only spendings and the other taxing spendings-plus-savings (with almost no men-

[1] *Am. Econ. Rev.*, vol. xxix, March, 1939, pp. 16-33.

[2] *Ibid.*, Sept., 1939, pp. 538-48.

[3] *Ibid.*, Sept., 1939, pp. 549-50.

tion of dissavings). And Crum reaches the conclusion (to which I offer no objection) that the taxing authority which did not tax savings would, in order to meet its budget, have to make up for the exemption of those savings.

Even if we concede this and other conclusions of Mr. Crum (under his very unrealistic assumptions), there is practically nothing in his article on the question supposed to be at issue—the existence of double taxation when savings are taxed.

In fact, if Professor Crum's article did not purport to have reference to mine, I could criticize it very little. And if his references to mine were entirely correct, I would even say his article *confirmed* mine. For the only part of his discussion which is very germane is included in the three pages, 545-47, where he shows correctly that the *savers* in B-land (where savings are exempt) do have an advantage over the *savers* in A-land, where savings are taxed, and that national saving might even be "encouraged" by the B tax system.

Yet he seems to think that his comparisons disprove double taxation. On page 544 he asks: "Where then is B's advantage over A? And is A a victim of 'double' taxation?" And he repeats these questions on page 547.

He evidently asks these rhetorical questions because his numerical illustration shows that the *average* A (inhabitant of the state where savings are taxed) and the *average* B (inhabitant of the state where savings are not taxed) will fare alike—that the *average* A has no "advantage" such as Professor Crum thinks I claimed. And he is, I agree, correct—at least under his assumptions.

He quotes my assertion that "There is mathematical proof—proof that if savings are taxed as income and later the income from these savings is also taxed, there will result a subtle form of 'double taxation' "; but in denying that I had proved this (pp. 538 and 547), he apparently had sole reference to the arithmetical illustrations in the March, 1939, article and did not notice the footnote explaining that "Proof of double taxation was offered in *The Nature of Capital and Income,* especially in graphic form, and again in *Econometrica* (January, 1937, 'Income in Theory and Income Taxation in Practice'), in algebraic form" and that I merely added, "The present article [March, 1939] furnishes some new arithmetical illustrations."

There are several other respects in which a reader of Professor Crum's article will fail to get a true picture of the proposals which he criticizes.

It would seem that (if he had noticed the fact) he would have told his readers that I do favor quite strongly one form of double taxation, namely, the taxation of big accumulations at the death of the accumulator plus the taxation, later, of the income from those accumulations as spent by the heirs.

I said: "So far as taxation is concerned, the best method for preventing an undemocratic and hereditary plutocracy, I believe, would be through estate and inheritance taxes. An inheritance tax is a tax frankly on capital value, which means a pre-tax on future income and so implies a second tax when that future income arrives. This species of tax on capital, coming at the time when the property passes at death, seems to the present writer more easily justified than any other tax on capital in an ostensible income tax" (p. 32).

On the question of expediency as between the two sorts of income tax, the main comparison must, of course, be between the two regimes—a spendings tax vs. a spendings-plus-savings tax—in one and the same jurisdiction, say the United States, regardless of the incidental question of migration.

Professor Crum's comments apply to a comparison between the two jurisdictions, especially when he complains that "Z [his chief saver in the jurisdiction which exempts savings] waxes ever fatter," and then asks, "What are the consequences to Z? First is the political fact that, even if X and Y—the majority of the population in a nation [B] which presumably professes to enjoy democratic government—consented to the arrangement in Year O and for some years thereafter, the worm would turn; and Z would sooner or later be taxed in deadly earnest on his 'extra' savings or the 'yield' thereof or both" (p. 547).

But, under the regime proposed by me, the savings *would* be taxed—as an estate. And (with realistic assumptions) the tax revenue would be greater than under the regime favored by Crum.

This last consideration (of greater revenue) I did not discuss in the March 1939 article, and it needs only a passing reference here.[4]

The important element in a nation's savings or capital-increase comes with new inventions. Such examples of capital-increases grow fast from year to year like compound interest, that is, *if they are tax-exempt*. A tax on the capital-increases would forestall this rapid growth. Thus, one important consequence of this spendings-plus-savings tax is that it produces far less revenue than would the spendings tax, especially under conditions resembling the actual world more closely than the conditions assumed in Professor Crum's highly hypothetical communities.

One of Professor Crum's most theoretical and least realistic assumptions is a 5 per cent interest and capital-increase rate uniform for all individuals and for the government, whereas the facts of life are far different. In real life the rate of interest at which the government can borrow is *below* other rates and the rate at which private initiative increases our national wealth is, in those cases which contribute most, far *above* the rate under government management. Under these real life conditions the revenue received by the government from taxing savings would *not* be used as productively as it would be if left in private hands. Our capital equipment has been built largely from new inventions, privately developed, with annual increments of capital value far in excess of the market rate of interest; while our governmental investments have usually been wasteful.

As I go over Mr. Crum's article for the third time, I find that my only really serious dissent from his views, as I understand them, is felt when he pictures the savers' savings as being made at the expense of non-savers.

My own picture is altogether different. I regard the typical capital-creator as one who develops new inventions like the railway, automobile, radio and movie, which are typically far more beneficial to others than they are to those who, through developing them, become the owners of huge aggregations of capital in the form of productive plants. These accumulators—the Vander-

[4] For a discussion of this point, see "A Second Reason for Not Taxing Savings," *Taxes*, Aug., 1941.

bilts, Rockefellers, Fords—seem to me, in the first generation, to function more as national benefactors than as beneficiaries. Only when, as often happens in subsequent generations, the heirs become primarily spenders, instead of savers, do I think of the owners as self-indulgent or parasitical. Accordingly, I would encourage savings and discourage spendings, whereas the tax on savings doubly taxes the saver and doubly exempts the spender, thus going directly contrary, in both cases, to sound public policy.[5]

But, as to any substantial issue between Crum's article and mine, I can find no such issue, only an "alleged" issue.

Between Mr. Musgrave and myself there is more of an issue, though not very serious. Mr. Musgrave says: "The point of issue is whether the general income tax [*i.e.*, one on spendings-plus-savings] involves a hidden discrimination against income from saving or whether, on the contrary, Professor Fisher's spending tax results in an analogous discrimination in favor of saved incomes" (p. 549). And he concludes that: "From a logical point of view Professor Fisher's statement that the income tax discriminates against savings is no more valid than the opposite contention that the spending tax discriminates against spending" (p. 550).

This, it seems to me, is carrying relativity too far. Or is it not far enough? It is true that if any tax system A hits the saver harder, *relatively* to the spender, than does tax system B, it logically follows that tax system B must hit the spender harder *relatively* to the saver than does tax system A. That is self-evident enough. But it misses the point. The comparison, to be meaningful, must not be merely between two things. Both things must be relative to a third as a common measure. That third thing is discounting or capitalization. It is based on the fact that the tree derives its value from the fruit.

At the very start Mr. Musgrave seems to me to go off the track when he says: "Notwithstanding the merits of Professor Fisher's income concept [*i.e.*, yield (which is equal to spendings)] for purposes of general theory, we find no necessity to use the same income-concept for all purposes" (p. 550).

I am quite ready to agree that there is no such necessity "for *all* purposes." But I cannot agree when Mr. Musgrave concludes that the yield concept is not germane to the purpose of taxing income.

In at least two important respects concerning "general theory," the yield concept is more applicable to income taxation than is any other income concept: it would make the tax on income a tax on *real* income; consumption, and the capitalization or discount principle, would make it in tune with the principle underlying market values.

To compare two streams of income (in the yield sense), we discount them. And to compare two streams of taxes paid out of those two streams of income, we also discount. Such comparison of the two income streams is exemplified by the market-values of the income-bearers, such as shares of stock; and comparison of the two tax-streams is exemplified when the taxes are supposed to be "compounded" for or prepaid in spot cash. These com-

[5] This subject and others related to it are elaborated in "A Second Reason for Not Taxing Savings," *Taxes*, Aug., 1941; they will be treated mathematically, in the January *Econometrica*; and the whole problem of income tax reform will be the subject of a forthcoming book by myself.

parisons—between the incomes taxed and between the taxes thereon—will run parallel if we use the yield-concept of income (which I prefer for tax purposes). But they do not run parallel if we use yield-plus-savings concept of income (which Mr. Musgrave prefers for tax purposes). For a tax on the savings ingredient (or capital-increase) *distorts* the parallelism. When such capital-increase is taxed (or capital-decrease is deducted), a discount comparison between the taxes is entirely out of tune with the discount comparison between the incomes.

For instance, consider two perpetual annuities, *m* and *n*, each earning at first $5.00 a year and each having a market value of $100, the "basis" being 5 per cent. Suppose that in the case of *m* there are no savings, but that in the case of *n* the first $5.00 earned is saved and reinvested on the same (5 per cent) basis, adding 25 cents a year to the income and, in effect, transforming this *n* annuity into an annuity, not of $5.00 a year, but of $5.25 a year, and not beginning at once like annuity *m* but being deferred one year.

Thus transformed, annuity *n* actually *yields* nothing the first year though it *earns* $5.00. Its market value is still $100[6]; for the market value is always discounted *yield,* not discounted *earnings.*

Now suppose a 20 per cent tax on the two incomes, *m* and *n*. This would, from the start, take $1.00 a year out of the unchanged annuity *m* (of $5.00 a year). The present value of said $1.00 perpetually is $20. That is, this $20 could theoretically be paid in spot cash in order to "compound" for the $1.00 a year.

But as to *n*—which has been transformed (by saving $5.00 the first year) into an annuity of $5.25 a year beginning one year hence—the 20 per cent tax will be different, according to which income concept is used for the tax base. That is, if "income" is taken to mean *yield,* the 20 per cent tax is zero the first year and $1.05 every year after, and this series has a present worth of $20.[7] Thus both annuities are worth $100 and both tax series are worth $20, or 20 per cent of the original $100 market values. These two values and the two taxes run parallel; whereas, no such parallelism applies if the taxable "income" is taken to mean "earnings" so as to include the $5.00 earned the first year but not spent. If that $5.00 is taxed the first year, at 20 per cent, $1.00 is taken, leaving $4.00 out of the $5.00 of savings, so that a year hence the capital is $104. This will thereafter yield $5.20 a year. A 20 per cent tax on this is $1.04 a year in perpetuity. Thus, the present value of the whole tax series, including the $1.00 the first year, is not $20 but $21.80, which is *more* than 20 per cent of the original $100 market value.

There is therefore a "discrimination" measured by $1.80 against the saver. Though his property has the same value ($100) as the spender's, his tax burden is heavier *measured in present value,* which is the only available measure when time shapes differ.

This same principle applies in the case of investment followed by disinvest-

[6] One way to compute the market value of *n* on a 5 per cent basis is in two steps as follows: the income of $5.25 a year, beginning one year hence, is 5 per cent on a capital value of $105 one year hence, which $105 is, in turn, discounted, $100 today.

[7] *I.e.,* $21 one year hence, worth $20 today.

ment and the spending of the saved sum, say two years later. If that sum is taxed when received, there is double taxation. It is not a mere "difference in timing" as Mr. Musgrave seems to think. Mr. Musgrave himself virtually concedes more than a difference in timing when he uses the words "bear harder" (p. 550). He says: "If the original income is invested, a given percentage tax on income will, over the period from income-receipt to disinvestment, *bear harder* (italics mine) on the 'saver' than a tax payable at the time of disinvestment, yielding the same amount. The cause of the excess burden on the saver lies in his loss of interest . . ." (p. 550).

Thus there is always *some* double taxation whether the consumption is put off two years, fifteen years, or forever. In all cases there is a twofold tax, namely, a tax on interest, the fruit of savings, and a tax on the discounted value of the said interest.

When, therefore, Mr. Musgrave says "the original income [saved] is thus taxed but once, whether or not consumption has been delayed" (p. 549), he overlooks some of the rôle played by interest. In the example he has chosen (of a two-year interval), this oversight is not serious. With a two-year interval only $9.29 out of the original $100 saved is taxed twice, this $9.29 being the discounted value of the two years' interest items of $5.00 each. The remaining $90.71 "is taxed but once." But the interest becomes a more and more serious factor the longer "consumption has been delayed."

It is entirely misleading to contrast as equivalents the $100 saved today and the $100 spent (plus interest) two years later. These two $100's are *equal* numerically but by no means *equivalent* at any given instant. The equivalent (at the start) of the later $100 is only $90.71 out of the earlier $100.

Like Mr. Crum and a number of other writers, Mr. Musgrave takes for granted that "A given percentage tax on all income [in which he includes savings] will yield more revenue . . . than a similar percentage tax on incomes after the deduction of savings" (p. 549). He says that, if savings are included in taxable income, we have "a broader income tax base" (p. 549) and that, if savings are excluded, the "range of income tax brackets would be narrowed enormously" (p. 550).

Evidently he has not fully worked this out with figures. For, in the end, the exact opposite is typically true. Paradoxically more taxes can, in typical cases of new inventions, be obtained from the "part" excluding savings than from the "whole" including savings.

One example must suffice here. Suppose someone like Henry Ford was worth $1,000 in 1900 and increased his net worth by 40 per cent per annum until 1940. He would then be worth $700,500,000.

Suppose this growth occurred without any tax on his capital-increase. Then contrast the results, as given above, with what would happen under a tax on capital-increase such as Mr. Musgrave favors. Let that tax be only 20 per cent. The capital in 1940 would then be not $700,500,000 but only $66,500,000. That is, the 20 per cent tax would destroy over 90 per cent of the capital!

Moreover, the tax revenue for the 40 years would be only $16,600,000

whereas, if there had been no such tax killing the goose which ought to lay the golden egg, a tax *of merely 3 per cent* would, at the end, mean $21,000,000.

Mr. Musgrave alludes to "a growing group of economists" (p. 550) favoring, so he seems to think, a general tax on savings. If there be such a group, it is probably owing to a misunderstanding of Keynes (who is now, on the contrary, proposing compulsory savings), and the group does not seem likely to keep on "growing." On the contrary, the spendings and destructions of capital, public and private, in the past decade, must (I, for one, feel sure) soon bring about a reaction toward a renewed and keener appreciation of the value of normal savings.

The idea stressed by Musgrave that "saving" does not necessarily imply "investment" is important under certain circumstances, notably during deflation when there is hoarding or during the New-Deal hounding of business. But these circumstances do not invalidate the fundamental double taxation which is the target at which both Crum and Musgrave aimed. Nor do I see any ground for fearing that the exemption of savings would encourage hoarding *more* than investing!

I freely admit that "policy considerations" (p. 549) may sometimes afford extenuation or even justification for double taxation. But to justify double taxation (when it can be justified) is quite different from contending, as Mr. Musgrave does, that "no double taxation prevails" (p. 549).

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Proposal for Cushioning the Transition to a Peacetime Economy

I

In considering the means for preventing a possible depression in the post-war period, it is useful to distinguish three different types of causal factors which may give rise to the unemployment of human and material resources. These are: (1) Sudden cessation of the demand for military products; (2) dislocation of trade caused directly and indirectly by the war, such as the loss of foreign markets, the distortion or restriction of international capital movements, etc.; (3) secular, political, or institutional factors which were present in the economy before the war and which re-assert themselves (in more or less modified form) after its cessation.

These three classes of potential causes of post-war unemployment are, of course, closely interrelated, each tending to reinforce the others. The advantage of considering them separately lies in the fact that a remedy appropriate to one of them will not necessarily be appropriate to the others.

Proposals so far advanced for dealing with the post-war problem for the most part envisage large scale public works of various kinds, the expansion of social security programs, governmental action looking toward the revival of international trade, etc. These programs, necessary and proper though they

may be, are not directed specifically at the unemployment springing immediately from the cessation of the war. They expressly or implicitly assume that the other elements making for depression in the post-war world; *i.e.*, those covered by (2) and (3) above, are more fundamental than this factor. This may very well be true. Yet the prevention or mitigation of unemployment resulting from the disappearance of military demand as such is highly important, not only for its own sake but also, as already suggested, because such unemployment would tend to intensify other unfavorable post-war influences. It is this—the transition problem proper—to which this paper is devoted.

The problem divides itself into two parts: (1) the transfer of resources from the production of war goods to the production of peace goods and (2) the "secondary deflation" effects following upon the interruption to full employment. In view of the memory of the extraordinarily deep depression which preceded the war, cumulative "secondary" effects, induced by hoarding and retrenchment, are likely to prove far more serious than the mere problem of physical readjustment and transfer.[1]

One method which suggests itself for heading off unemployment in the immediate post-war period is the accumulation, during the war, of *a backlog of orders for civilian goods,* especially for the durable consumers' goods the production of which was most interfered with by the war. Not only would such a backlog provide immediate employment in the industries concerned but, perhaps even more important, it would help to maintain "confidence" in other areas of the economy.

The paragraphs that follow outline a proposal which, in the writer's opinion, offers a distinct possibility for building up the type of backlog described.

II

The central objective of the plan is to build up a large volume of private savings which may be counted upon to be spent shortly after the cessation of hostilities and which will be accumulated for that special purpose. This is to be accomplished through the issuance by the United States Treasury of a new type of bond.[2] This bond (1) shall bear a high rate of interest, perhaps between 4 and 5 per cent; (2) shall be payable only to recognized sellers of specified goods in full or partial settlement of post-war purchases made by the bondholders.

The commodities in payment of which the bonds will be honored will include all the more important durable consumers' goods: farm machinery and equipment; residential or business buildings; and "capital goods" in general. The articles purchased must be new, not second-hand.

[1] In a historical study of the relation of war to the business cycle, it was found that "When the war is terminated, a recession occurs in the belligerent countries. . . . [This] is soon followed by revival and prosperity." E. M. Bernstein, "War and Business Cycles," *Am. Econ. Rev.*, vol. xxx, Sept., 1940, pp. 530-31. For the reasons stated above and also because of the rigidity existing in today's economic structure, there is much more likelihood that a recession after this war will develop into a major depression than was the case in past wars.

[2] If it is felt that the multiplicity of types of bonds may be confusing to the public, the instruments could be called Merchandise Saving Certificates, or by some similar name.

The bonds, which may be transferable, shall have no maturity date but shall be payable on or after a day proclaimed in advance by the President. This date will be the earliest on which, in the President's judgment, substantial deliveries of one or more of the specified goods can be begun. (For convenience, this date will be referred to below as X Day.) On or after X Day bondholders may receive payment by endorsing their bonds in full or partial payment of a new purchase of any of the specified goods, but in no other way. Purchases on which the bonds will constitute at least a one-third payment shall be exempt from all war excise taxes in force at the time of purchase. (Manufacturers would obtain refund of the tax by furnishing proof of sale of the article to a retail customer.)

In order to discourage retention of the bonds after X Day all interest and tax exemption shall cease six months after X Day (or as of the date—subsequent to X Day—of endorsement of any bond to a dealer, whichever is earlier). However, in view of the possibility of a situation arising (as it did in 1919) in which demand in a great number of lines may outrun supply, this provision should be flexible. It could perhaps give the President a range of time, such as between three months and two years after X Day within which interest on the bonds and tax exemption might be discontinued.

Upon turning in a bond to a dealer the customer will be entitled to receive credit for all interest due on the bond. In order to facilitate the transaction each bond will carry a table showing the amount of interest due after stated intervals. In cashing the bonds, dealers will be required to furnish proof of sale of a new article and of the date of the transaction. The bonds will be available in denominations as low as $25, with installment purchases made possible through stamp books.

Any holder may receive cash for his bond at any time before the day of the President's proclamation (see below), but if he avails himself of this privilege shall forfeit all interest.[3] The privilege of converting bonds into cash shall end on the date when the President proclaims X Day (which date will, of course, precede X Day).[4] However, to take care of cases where a small surplus is left after any desired article is paid for in full, bonds or stamps up to $25 value in such cases will be redeemed in cash after X Day.

The Treasury shall have the right to suspend (and resume) the sale of the bonds at any time, and to call in outstanding bonds after two years subsequent to the date the first bonds were issued.

III

It will be seen that the above scheme, if successfully carried through, will serve a double purpose: (1) it will absorb purchasing power during the war; (2) at the end of the war it will *convert the purchasing power into actual purchases.*

It is the latter characteristic of the plan which distinguishes it from pro-

[3] An exception to this penalty would be made in case of the death of the bondholder.

[4] Thus between the day of the President's proclamation and X Day, a period which might perhaps be 90 days, the bondholders' funds would be "frozen," being repayable neither in cash nor in goods.

posals which look forward merely to making purchasing power *available* in the post-war period without guaranteeing its actual use in creating demand. Furthermore, it should be noted that the plan will create a direct demand for employment in that sector of the economy where employment will be most urgently needed, namely, in the so-called "hard" goods industries.[5]

It may be argued here that these purposes would be accomplished as well by the "Keynes plan" of compulsory saving as by the scheme presented above. Since the "forced savings" would in general be disbursed to individuals in the lower income groups with a high propensity to consume, they would in all likelihood soon be spent. This argument deserves some consideration.

Let us assume first that the savings are paid out as a lump sum. If so, there is no presumption whatever that the use of the money will conform to the usual income expenditure pattern of the individual. On the contrary, these extraordinary receipts would probably be regarded as capital gains. Much of the money would be saved and the fraction spent on consumption would be smaller than the corresponding fraction out of ordinary income.

Now let us suppose that the payment of the savings money is spread out in weekly payments over a period of time. If the recipient is working, this money will constitute an addition to his income. But it would be a mistake to apply the individual's ordinary marginal propensity to consume to this added income, for it is purely temporary and the recipient knows that it is. It is altogether reasonable to assume that he will spend a smaller fraction of it than if he considered it to be permanent.

Moreover, we know that, in any event, not all the "forced savings" receipts, nor even a large part of them, will be spent on durable consumers' goods. This is true *a fortiori* if the individual is unemployed. Yet it is precisely in the "hard" goods industries that unemployment will make itself felt most quickly and severely, with deleterious cumulative effects on the rest of the economy.

It should be clear, therefore, that as far as assuring expenditure of money saved during the emergency is concerned, the Keynes plan does not take the place of the scheme here presented. Much of the above argument could be repeated with respect to unemployment benefits, separation wages and the like. Furthermore, the experience of the depression has amply demonstrated that the "secondary" effects of such expenditures cannot be compared to the like effects of the expenditure of wages earned in private industry.[6]

The appeal to the American public to invest in the bonds would be based

[5] A scheme under which the government borrows money on condition that the repaid funds must be spent only in a specified way may seem fantastically new, but has a precedent. This precedent is to be found in the German government's *Volkswagen* campaign under which the Labor Front collected weekly contributions from German citizens as payments on popular-priced automobiles which were to be delivered at some time in the future.

Another analogue is the provision in the latest British tax bill whereby a certain percentage of the excess profits tax will be returned to the taxpayer after the war on condition that he spend it for reconstruction purposes. *Cf. The Economist,* April 12, 1941, p. 475.

[6] These facts by themselves are of course no argument against these schemes as anti-inflationary devices.

primarily on grounds of self-interest. The greatest incentives that would be counted on to sell the bonds would be (1) the high rate of return, and (2) exemption from the high war excise taxes.

Furthermore, purchase of the bonds could be held out as a plan for acquiring some definite article in which the individual is interested. It would be a way of "saving up" to get a car, or a washer, or a refrigerator. People who will not save "in general" may, with the proper approach, be induced to save for a special purpose.[7] This appeal should be especially strong at a time when most durable consumer goods are scarce. Finally, with a little imagination, a powerful appeal to buy the bonds can be based on the essential purpose of the plan, namely, to maintain employment after the war.

The cost of the plan would be very moderate. If the interest rate is 5 per cent and the amount of bonds sold (uniformly) over a three-year period, and outstanding at the end of that time, is 10 billion dollars, the *gross* additional cost to the Treasury would be in the neighborhood of 400 million dollars.[8] The *net* cost will be much smaller because manifestly the higher national income brought about by the expenditure of the backlog[9] should greatly increase tax recoveries in the immediate post-war period.

IV

It is obvious that the success or failure of the scheme here presented depends almost entirely on whether the special kind of bond contemplated will find acceptance with the public. There appear to be no other problems, administrative or otherwise, of a major character.[10] It is therefore necessary to consider the factors which may militate against the sale of the bonds.

The first and perhaps most important of these is the natural reluctance of people to accept a limitation in advance on the manner in which they may spend their savings. The question may be asked: Why should people commit themselves to buy a durable good after the war when they know they may be out of work and lack the ordinary necessities of life? In answer to this question it may be admitted at once that the bonds will not compete—and are not intended to compete—with savings accumulated against unforeseen emergencies. They will appeal only to those who deliberately intend to use part of their income (or accumulated savings for that matter), to acquire some durable consumers' good.

These will include:

(1) those who would like to buy the commodity now but cannot do so because it is not available;

(2) those who have already made provision against a "rainy day" or

[7] This is borne out by the popularity of "Christmas Savings Clubs."

[8] This is based on an assumed cost to the Treasury of between 2 per cent and 2½ per cent for money from Defense Saving Bonds.

[9] The backlog, it should be noted, may be substantially greater than the amount of bonds outstanding, since many of the bonds will be used only as down-payments.

[10] Of course, the government will be faced with a major refinancing operation at the time of the payment of the bonds, but there will be no net increase in its debt.

have sufficient earning power to do so concurrently with investing in the bonds;

(3) those who had sufficient income to be able to afford the particular commodity (say, an automobile) before the war and make the not unreasonable assumption that they will be able to afford it afterward. (In view of the fact that the great majority of those now employed were employed before the war, this should be a very large category.)

Moreover, it should be remembered that the plan will offer the prospective bond purchaser the privilege of withdrawing his principal at any time.[11] This is a safety clause which should be very effective in overcoming sales resistance on this score.

The second factor which may impede the sale of the bonds is the uncertainty of the time of repayment. Many individuals may be willing to save for a year or two years with an intended purchase in mind, but may not be willing to make the time of their purchase contingent upon some eventuality the occurrence of which lies in the indefinite future. This is a valid objection, but it is offset, at least in part, by two considerations.

In the first place, there is the cancellation privilege mentioned above. A person may put his money into the bonds on the assumption that the war will be over in, say, two years. He need not hesitate to do this because if, after that time, the end is not yet in sight, he will be able to withdraw his money.

Secondly, most people who wish to acquire durable consumers' goods will not find it possible to satisfy their desires while the emergency lasts anyway. Hence, the actual choice that will confront them will be between saving their money until after the war and spending it on *other* goods or services now. If they decide to save, with the object of buying some durable after the war, they will be no worse off if they save by investing in the bonds than if they saved in any other form.

The enormous benefits to be gained from the success of the plan, coupled with the fact that practically nothing would be lost in the event of failure, argue strongly for making the experiment.

ALEX. ROSENSON

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Population Growth, Investment, and Economic Recovery

It has frequently been stated that the declining rate of population growth was one of the major contributing causes for the failure of the American economy to recover fully from the depression of the 1930's.[1] Since this view has not gone entirely unchallenged, it seems appropriate to examine a little more fully the effects upon the economy of a slowing down of the rate of population increase during a period of general underemployment. It is my contention that, during such a period, there is no important demonstrable

[11] Up to the time of the President's proclamation.

[1] For an expression of this view, see especially A. H. Hansen, "Economic Progress and Declining Population Growth," *Am. Econ. Rev.*, vol. xxix, March, 1939, pp. 1-15.

connection between the rate of population growth and the level of employment.

Population growth, it is claimed, might affect investment, and thus the level of employment, in two ways. It could increase the demand for investment either for the "widening of capital" or for the "deepening of capital." By definition, the "widening of capital" means investment to supply tools and equipment for additional workers who are increasing the total output of finished goods. Unless there first occur additional output and additional employment, there will be no demand for investment for the "widening of capital." The claim, therefore, that an increasing rate of population growth increases the demand for investment for this purpose involves the tacit assumption that employment has increased. Since the problem is to demonstrate that an increasing rate of population growth will raise the level of employment, we cannot make such an assumption.

The effect of population on the "deepening of capital" is a result of the rôle that the rate of population growth plays in determining the composition of the flow of final goods. The argument seems to be that a high birth rate so affects the individual family's pattern of expenditure that more is spent on goods requiring much investment. Among the poor, the group numerically largest and therefore the group in which a changing birth rate would have the most effect, there is an income level so low that almost the entire income must be spent on food, clothing, and shelter.[2] One more mouth to feed means just that and may not call for additional housing facilities and additional food but merely more crowding in the present rooms and more division of the present amount of food. Certainly there is no vast amount of income being spent in non-investment utilizing fields such as personal services which could be shifted to housing. This income group, then, will not by its consumption provide any great opportunities for investment because of a rising birth rate. In the wealthy population strata, the amount of automatic saving is sufficiently great, and the number of rich performing such saving sufficiently small, that the practical importance of any change in the birth rate of this group is likely to be rather negligible. In the middle-income group it is true that an increase in the birth rate will cause an actual change in expenditure away from other types of goods to food, clothing, and shelter. If these three are "the most highly capitalized goods in the economy,"[3] then it necessarily follows that there will be an increase in investment. We may, however, well question the actual importance of this factor during a depression period. An increase in the demand for housing might, in such a period, more largely take up the slack of vacant housing facilities rather than produce new investment and new construction. In addition there may be an appreciable loss of investment because of the shift of demand. For example, the family which is renting a larger house may be forced to retain its old automobile a year or two longer, or refrain from purchasing a second car. The production of automobiles is also capital using,

[2] At least this is likely to be the case during a period of general underemployment and certainly seems to have been true during the decade of the 1930's which we are considering.

[3] Both Hansen and Keynes feel this to be true of housing accommodations and agricultural products. See A. R. Sweezy, "Round Table on Population Problems," *Am. Econ. Rev.*, Suppl., vol. xxx, March, 1940, p. 397.

perhaps as much so as the production of housing accommodations. Thus the shift in consumer demand might cause no net increment in the demand for investment.

In short, it is impossible to answer in advance whether an increased birth rate would occasion a greater demand for investment to be used in the "deepening process" of capital formation. The discussion of the effect on the "deepening process" has been limited, heretofore, to an increasing rate of population growth occasioned by a higher birth rate. More definite comments can be made about an increment caused by immigration. An influx of immigrants can have no influence whatsoever on the "deepening of capital" resulting from changes in the character of the output as a whole since this group of the population does not shift its demand from one type of product to another type requiring more investment. It cannot *shift* its demand because the group had no effective demand before it entered the economy.[4] Thus immigration cannot increase the demand for investment through the "deepening of capital" process.

Much of the recent discussion of the secular stagnation hypothesis has considered the effect of the rate of population growth directly upon employment rather than upon investment. In an analysis of this effect, it is essential that confusion between total population and total *employed* population be avoided. An initial decline in total employed population will, through the operation of the multiplier effect, cause a further decrease in employment. This would be of relevance to an evaluation of the effects of a declining rate of population growth only if *total* population is the *working* population.. This, however, would mean the absence of unemployment and is, therefore, of no interest to the problem under consideration, the effects of a declining rate of population growth in a depression period.

Some of the writers on this subject have considered it obvious that an increasing rate of population growth "stirs up building activity" and increases the demand for consumers' goods.[5] Unless there is an increase in purchasing power first, there can be no increase in demand, only a shift of demand which may or may not be advantageous to employment. An increase in effective demand can result prior to new investment from three sources. The new population may obtain an income as a result of securing employment. This, of course, would increase demand but again the problem is to explain how they got jobs. The new population may, secondly, be granted governmental relief and so obtain purchasing power. Obviously this might increase effective demand, but it is only saying that the government may be able to stimulate employment by deficit-spending. It is the spending that matters in this case, not the population increase. The third possible source from which the increment of population might obtain purchasing power is from private charity. This may be a diversion of expenditure with the donors foregoing their own consumption in order to give to the new population, or forcing the prior recipients of their charity to divide the proceeds with the new population.

[4] Except, of course, for products previously exported.

[5] A. Lösch, "Population Cycles as a Cause of Business Cycles," *Quart. Jour. of Econ.*, Aug., 1937, p. 658.

The effect in both cases is indeterminate depending upon the actual shift of demand that occurs. Those supporting the new population may, however, do so by a reduction of their savings. This would raise the level of employment, but the population increase is only an initiating force causing charity to increase. If some other factor caused donors to be more charitable, the effect would be the same.

There is, however, another possibility which must be considered. If, because of an increasing rate of population growth, expectations of entrepreneurs change so that they now believe certain investments to be profitable, whereas before the population increase such investments were not deemed profitable, then obviously investment and employment will increase. One of the important determinants of the marginal efficiency of capital is the state of expectations of entrepreneurs. If entrepreneurs become more optimistic, then investment must increase; and, if an increasing rate of population growth makes entrepreneurs more optimistic, then an increasing rate is beneficial to employment.

It is probably true that, in a boom period of full employment, rapid expansion, and an increasing population, a sudden decrease in the rate of population growth would tend to make investors more cautious. Whether an increasing rate of growth would have beneficial psychological effects during periods of depression is another matter. Popular opinion seems to hold that an increasing rate of population growth will cause a larger absolute level of unemployment. There is during every depression a certain public clamor to restrict immigration and even to further emigration from the country. At the thought of additional refugees coming into this land, the cry arises that the refugees would take jobs away from Americans. Such a popular reaction to an increasing rate of population growth might influence entrepreneurs to be pessimistically inclined rather than optimistic as a result of the increase. Investors may feel that such an increase will cause more absolute unemployment and economic hardship in the country so that investment prospects are less profitable rather than more profitable.

The conclusion seems to follow that an increasing rate of population growth might actually raise the level of unemployment during a period of depression. This, at least, seems a truer picture of the situation than Professor Hansen's declaration that the declining rate of population growth was an independent, contributing factor for "sick recoveries which die in their infancy and depressions which feed on themselves" such as we experienced in the 1930's.

MARTIN M. ROSEN

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Who Pays for the Gold?

A correspondent sends in the following colloquy[1] between Representative F. C. Smith and the Under Secretary of the Treasury, thinking that such a

[1] *Congressional Record,* daily edition, Nov. 25, 1941, pp. 9343-44. Also *Price Control Bill: hearings, committee on banking and currency, 77th Cong., 1st sess.;* Part 2, *H. R. 5479,* pp. 1152-53.

brilliant piece of economic analysis deserves a place in the *Review*. Mr. Smith is speaking:

"Up to June 30, 1940, the Treasury had acquired, nearly all from foreigners, roundly $13,000,000,000 of gold at $35 an ounce. By August 6, 1941 it was carrying on its books approximately $16,000,000,000 worth of gold at $35 an ounce, which represented the gold stock that was added to the amount held at the time of gold debasement, January 31, 1934.

"What did the Treasury use to pay for this gold? In section 8 of the Gold Reserve act is prescribed what shall be used to pay for it. It reads in part as follows:

" 'With the approval of the President, the Secretary of the Treasury may purchase gold in any amounts, at home or abroad, with any direct obligations, coin, or currency of the United States authorized by law, or with any funds in the Treasury not otherwise appropriated.'

"This is plain. It means the Treasury shall use money from its ordinary receipts, taxes, customs, and so forth, or direct Government obligations to pay for the gold it acquires.

"But does it pay for the gold it acquires with any of these payment media? The following colloquy took place between myself and Secretary of the Treasury, Mr. Morgenthau, at the hearings on the price control bill (p. 1152). It will be noted that Under Secretary of the Treasury, Mr. Bell, answered most of my questions, but specifically at the request of Mr. Morgenthau. Also it will be seen at the end of the colloquy, as shown here, that Mr. Morgenthau fully subscribed to all Mr. Bell said. Therefore, the answers to my questions are those of Mr. Morgenthau, as well as of Mr. Bell.

" 'Mr. F. C. Smith. What do you use to pay for this gold?'

" 'Secretary Morgenthau. Could Mr. Bell go through the operation of going to the bank and everything else?'

" 'Under Secretary Bell. If a country imports gold into the United States it is presented to the assay office, we will say in New York, and the New York assay office gives the importer or the bank or whoever it might be, a check on the Treasury, what we call a gold-fund check, and that check is cashed just like any other Government check. It is deposited by the recipient in his bank and creates a deposit.

" 'Then, when that check goes around the circuit and comes into the Federal Reserve bank it is charged to our account. It depletes the Government's balance with the Federal Reserve banks, and then in turn we issue gold certificates against that gold, and receive a credit for the gold certificates with the Federal Reserve Banks, thereby replenishing our account.'

" 'Mr. F. C. Smith. And you pay for the gold with gold certificates?'

" 'Under Secretary Bell. The gold pays for itself; it is money; it is just an exchange of one form of money for another.'

" 'Mr. F. C. Smith. What does the law say on that? Section 8 of the Federal [Gold] Reserve act of 1934 reads: "With the approval of the President, the Secretary of the Treasury may purchase gold in any amount at home or abroad, with any direct obligations, coin, or currency of the United States, authorized by law." '

" 'That is what the law prescribes you shall use to pay for this gold. What do you use?'

" 'Under Secretary Bell. We use a Government check which is payable in any coin or currency. Anybody can present that check to the Treasurer of the United States or a Federal Reserve bank and he can get currency or silver coin.'

" 'Mr. F. C. Smith. That is quite enigmatic. I am just wondering, is the cost of this gold reflected anywhere on the books of the Treasury? Does it enter into the debt?'

" 'Under Secretary Bell. The gold does not enter into the debt. It enters into the monetary system, and is shown on the daily statement every day.'

" 'Mr. F. C. Smith. Well, it does resolve itself into this, that you pay for it with a gold certificate.'

" 'Under Secretary Bell. We get a credit for the gold certificate that we issue to the Federal Reserve bank, which is backed by the gold.'

" 'Mr. F. C. Smith. But in the end, that is all that the United States Treasury gives out for this gold, is that true or not? Has it anything else to show that it paid for this gold except the gold certificate?'

" 'Under Secretary Bell. That is all that we have to show, but the importer of gold has a bank credit to show, or bank deposit to show for it.'

" 'Mr. F. C. Smith. But you have set up a deposit in the banks?'

" 'Under Secretary Bell. That is right; it increases the deposits. Gold earmarked in favor of a foreign government does not, of course, enter our monetary system.'

" 'Mr. F. C. Smith. But you printed the gold certificate, so you paid for the gold with fiat, did you not?'

" 'Under Secretary Bell. No; a gold certificate backed by gold is not fiat currency, if I understand the word "fiat." '

" 'Mr. F. C. Smith. But you bought the gold, purchased the gold, and now you set up a deposit in the banking system of this $15,000,000,000?'

" 'Under Secretary Bell. In fact, that is what was done, you exchanged the gold for a deposit in the bank.'

" 'Mr. F. C. Smith. Who exchanged the gold? The foreigner brought the gold in, and the Treasury issued a gold certificate and sent it to the Federal Reserve bank, which in turn set up a credit in some member bank in favor of the foreigner who sold the gold to the Treasury. Is not that the fact? It was given to the foreign merchant, or the foreign seller of the gold; that is the way the transaction operates?'

" 'Under Secretary Bell. Let us say the Chase National Bank brought the gold from abroad. Now, they own the gold, and they sell it to the Treasury and we give them either currency or a check and that is the payment for it. If some foreign bank imports it, then they get a credit on the books of the Chase Bank which is their payment.'

" 'Mr. F. C. Smith. When you issue currency that is a temporary proposition until you get the transaction adjusted, until you make your so-called gold-certificate deposit, and then your check transaction is canceled out. It is through the gold certificate that the credit in the bank is set up.'

" 'Under Secretary Bell. That replenishes our account and in fact the gold has paid for itself.'

" 'Mr. F. C. Smith. Would you say, Mr. Secretary, that the United States Government is carrying the cost of this gold?'

" 'Secretary Morgenthau. If you mean, are we carrying it on our books at cost, yes; but there is no cost to carry it.'

" 'Mr. F. C. Smith. Somebody paid for it; who paid for it?'

" 'Secretary Morgenthau. Mr. Bell tried awfully hard to explain it.' "

TEMPORARY NATIONAL ECONOMIC COMMITTEE: REVIEWS OF MONOGRAPHS

No. 4: *Concentration and Composition of Individual Incomes, 1918-1937.* By ADOLPH J. GOLDENTHAL. Pp. 112. 15c.

This monograph is a statistical study of the incomes in the upper brackets of the federal income tax returns in relation to the total number of income recipients and the total national income. It centers attention upon the concentration of income in the hands of the few and upon the changes in such concentration which took place in the two decades 1918-37. The measure of concentration is the proportion of the total national income which flows into the hands of the upper two per cent of the income recipients.

As measured in this study, concentration paradoxically increases with the increase in dispersion. The more the distribution of income fans out, the greater the likelihood of there being abnormally high incomes which, though small in number, comprise a considerable proportion of the total national income. It is largely because of this phenomenon that the monograph carries the conclusion that concentration of income increases with prosperity and high speculative activity and falls with depression.

The monograph contains many tables showing the shares in the total national income going to varying proportions of recipients in the upper income brackets. It also contains analyses of the composition of incomes in the higher brackets according to derivation.

MAURICE LEVEN

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No. 8: *Toward More Housing.* By PETER A. STONE and R. HAROLD DENTON. 1940. Pp. xxi, 223. 30c.

This monograph is concerned primarily with the provision of better housing for low-income groups and restoration of employment and business activity, and enthusiasm for these ends leads the authors into some rather indefensible positions. The assumptions underlying the argument and the statistical procedure are the features most likely to be questioned. The implied assumption that the building boom of the 1920's (1925-30) affords a norm is open to question since that volume of activity reflected an accumulated shortage, from the war years, federal restriction and the 1920-21 depression.

Implying that only new houses are suitable for those in need of better shelter, the monograph states, "There is a need particularly for the rehousing of 4,000,000 families which . . . must depend upon the use of second-hand houses when they have become depreciated to the point where they fall into the category of slums." About 85 per cent of this estimate of new building requirements represents units "in need of major repairs" as reported by the Real Property Inventories and which, if repaired, would be put "in reasonably good condition."

The report states that there is an annual need for at least 350,000 to 400,000 more units than are now being built in the price class below $4,000 "in order to meet the need of families with incomes below $2,000 and who . . . require new homes. . . ."

All will agree on the commendable goal of more good houses at low cost. It may be noted, however, that $4,000 is more than the average value of urban dwellings in 35 of the states even in 1930 before the decline in values that followed. The report errs in stating that only 19 per cent of new houses cost under $4,000, while 76 per cent of all families have incomes under $2,000 (Table VIII). This error results from assuming that the price distribution of new single-family dwellings accepted for insurance by the Federal Housing Administration is typical. These F.H.A. dwellings average far above the total for the country, being $5,000 in 1938, as compared with $3,450 for building permits—raised one-third for understatement and site. A recent Bureau of Labor Statistics study of residential permit valuations during 1936-38, in over 700 cities, indicates that new dwellings costing under $4,000 including the site were about 30 per cent of total urban building. This omits all dwellings reported under $500. The 1940 census reveals a vast additional amount of building in rural non-farm areas where prices are traditionally lower, hence new building under $4,000 may exceed 30 per cent. And since the Financial Survey reported that only 28 per cent of owner-occupant families acquired their homes by new building, acquisitions by income groups under $2,000 compare favorably with the average.

The assumption of a fixed relationship between value and income of 2 to 1, with rent 24 per cent of income (p. 25, Table VIII), fails to recognize the lower ratios for higher incomes. Sample studies indicate that for incomes of $1,500-$2,000 rent was only 19.7 per cent. Use of larger percentages of income for this group would purchase houses valued above $4,000 and increase the total.

The monograph assumes no savings, and debt as 100 per cent of value, whereas most purchasers make some cash payment. It assumes payments of one per cent of full value per month, hence a term of about eleven years, whereas payments recur on the unpaid balance and the term may be twice that indicated, such as with F.H.A.

Moreover, the implication that families not having new houses at prices under $4,000 cannot find adequate and livable housing within their purchasing power is contradicted by the 1930 census data that 40 per cent of then existing owner-occupied dwellings and 67 per cent of rented units were valued at less than $4,000. Allowance for the decline of one-third in value following 1930, would indicate that 74 per cent of existing units were within command of families with incomes under $2,000 for 24 per cent of income, or less. Hence, if 30 per cent of the new 540,000 houses in 1940 were occupied by low-income families, the provision of suitable housing for the remaining 70 per cent would require that only 2½ per cent of existing homes valued under $4,000 become available to these groups each year.

The chapter on housing costs concludes that site labor probably ranges from 25 to 45 per cent of the total cost, averaging about 30 per cent on one-

family dwellings. But in Part II it is estimated that the cost of all labor including original processes is from 73 to 89 per cent. It is therefore surprising to read that, "On the whole, there is no indication that high wage rates tend to discourage residential building, or that low rates tend to stimulate it." The report finds no correlation between wage scales and the cost of building activity and unionization, but the evidence is not convincing.

Discussing interest rates, the monograph states, ". . . the decline in effective interest rates between 1931 and 1940 is largely the result of various types of Federal intervention." Many would include consideration of the changes in international financial relationships. And again, "It cannot be said, at least for the time being, that a stated return is necessary to attract funds equivalent to mortgages." The report would have more value if it had considered the long-run consequences to housing of deficit financing, dilution of capital and artificial rate reduction which have brought about this situation.

It declares that, "with the passing of the Act setting up the U. S. Housing Authority, the Federal Government assumed the responsibility of providing decent housing facilities for those groups for which private industry does not provide." This may be straining the interpretation of this single measure.

Taken as a whole, the report tends to accept the existing set of cost-making factors and their methods of procedure and to discuss the housing question on the basis of assumed permanence of the prevailing situation. The principal hope extended for more housing is through improved technology supported by research.

Numerous informing sidelights add value to the monograph. The Appendix of 50 pages represents a useful compendium of data pertinent to the construction industry. The testimony of many witnesses warrants profitable examination of the hearings before the committee.

There are noteworthy omissions. There is no discussion of housing of small towns and villages and on farms, or of the great disparity between the value of urban and rural dwellings, averaging 5 to 1. In view of the official character of the report, more discussion regarding the relation of housing to the general economy would be welcome, as well as more consideration of alternative federal policies.

DAVID L. WICKENS

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No. 40: *Regulation of Economic Activities in Foreign Countries.* By LOUIS DOMERATZKY, RUDOLF CALLMAN, AGNES ROMAN, JOHN H. COVER, and NELSON A. MILLER. 1941. Pp. 177. 20c.

This monograph of 175 pages consists of seven parts dealing respectively with Great Britain (thirty pages), Germany (fifty pages), France, Argentina, Brazil, Chile, and Mexico, and an eighth part (two pages) of "Conclusions Regarding Latin America." Two-thirds of the part on Great Britain are devoted to the reorganization of the coal and cotton industries in the interbellum decades, preceded by a sketch of the general economic position of

the country after the First World War and the evolution of British governmental intervention in private industrial relations. The coal and cotton industry discussions are good factual summaries, but the absorption of attention in these two sick-industry cases results in the neglect of many important questions of British policy which a better planned monograph should be expected at least to touch upon.

The next part, comprising two chapters on the German experience, presents, in contrast to the part on Great Britain, a rounded and formidably documented survey of combination and control in German business, labor, and financial affairs. Yet in these two chapters, as in the rest of the monograph, the thinning effects of attempting to cover too much ground are shown in a tendency of the study to lose its often excellent analytical quality and lapse into generalities and tedious descriptive recitations of no very great significance. The "Conclusions Regarding Latin America" seem gratuitous and ill-advised, being little more than a collection of assertions, some unsupported and some of very doubtful correctness. The tone of this section is sometimes inappropriate as, for example, in the remark quoted from a popular magazine that ". . . having been mined for three centuries and milked for one, the Republics, particularly the more advanced Republics of Brazil, Argentina, and Chile, determined to do a bit of the mining and milking themselves. . . ."

HORACE WHITE, JR.

Washington, D.C.

Economic Theory; General Works

Monnaie, Prix et Change. Expériences Récentes et Théorie. By ALBERT AFTALION. Nouvelle édition remaniée et très augmentée. (Paris: Sirey. 1940. Pp. 565.)

When this new and considerably enlarged edition of *Monnaie, Prix et Change* (originally published in 1927) first went to press, it was presumed that the work would soon be available to every student of French monetary theory. The events of the war, however, have decreed otherwise. The present review is based on one out of seven copies which by chance reached the author himself in a town of unoccupied France. The reviewer, having been a student of Professor Aftalion and for a few subsequent years his assistant, feels less able to give a critical appraisal of the book from the point of view of current trends in American theory than to present its basic content as viewed from the perspective of recent French thought.

When the first articles of the author on the subject of money appeared in 1924 and 1925, it was possible to consider him as one of those unorthodox theorists whose provocative but consistently negative criticisms would stimulate strong and persistent opposition.[1] This feeling persisted even after the publication of *Monnaie, Prix et Change.* Nevertheless, the work quickly attracted a large audience in France, even among prominent defenders of traditional thought.[2] Thus, in spite of the opposition which other works on monetary questions by the same author still evoked,[3] this earlier book was well on the road to becoming a classic in French literature.

In part due to the discussion subsequent to the publication of the first edition, but probably due even more to the general advance in economics since that time, the issues at stake in the recent edition relate less to the soundness of the critical survey than to the validity of the positive theory, which itself has been the subject of attack by other theoreticians, *e.g.*, Hawtrey, Heilperin, and Marget. One of the most important features of this enlarged edition, therefore, has been to give more emphasis to the reconstructive parts of the analysis.

The author continues, however, to lay great stress on his polemics against

[1] The American reader will recall, for instance, J. W. Angell's very acute summary of his first article in *The Theory of International Prices* (p. 295), in which the question was raised as to how this "irreconcilable opponent of the quantity theory of money" would give "a complete alternative theory of his own."

[2] *Cf.* the article of Professor H. Truchy in the *Revue Politique et Parlementaire,* at the time of the publication of the book and, more recently, the frequent quotations made by Professor Baudin in *La Monnaie et la Formation des Prix* (Paris: Sirey, 1936), pp. 482 *ff.*, 493 *ff.*, 496-97, 516, *et passim.*

[3] *Cf.* criticism by Charles Rist in the *Revue d'Economie Politique,* 1937, pp. 381 *ff.*; and 1938, pp. 224 *ff.*, and rejoinders by Aftalion and Pirou in the same periodical, 1938, pp. 288 *ff.*, and pp. 438 *ff.*; and by this reviewer in the *Revue Economique Internationale,* Nov., 1937, and Oct., 1938.

the quantity theory of money in its various forms, but still in the simplest and least sophisticated presentations. The reason is, in part, that old errors, although repudiated, tend to reappear. But primarily, his method is for the purpose of cutting the roots of the more elaborate theories, so as to lead to the conclusion that any further examination of refinements would only result in wasted effort. If the all too famous man of straw did not exist, the author would have invented him; for he wants us to see men of straw behind apparently living bodies.

It may be conceded that some of Aftalion's criticisms have lost their provocative character. Much is today admitted of what seemed bold and new when current theory blindly implied, despite analyses such as Mitchell's in the United States and Nogaro's in France, that changes in circulation were, especially under conditions of paper money, the initial source of all monetary disturbances, or at least that "the price-level is the effect and cannot be the cause of changes in other factors" (an assertion in Fisher's *Purchasing Power of Money*, page 182, which many theoreticians thought necessarily connected with the equation of exchange, even though the more rigid interpretation that attributes all major changes in M′, V, V′ to the underlying influence of M were repudiated). In consequence, it is possible that some readers of the new edition will not venture beyond the first steps of the critical analysis, believing that the problems there discussed have been surmounted. (They may reappear before long.) But, after all, that would be an implicit tribute to a book which by its clear-cut analysis—with constant connection between searching statistical elaboration and rigorous abstract discussion—has played a major rôle in the controversy.

For a revision of the problems, the organization of the new edition merits definite approval. In the first edition, recent monetary experiments were presented in Part I; the theoretical discussion followed in Part II; and Part III dealt with the theory of foreign exchange. The great advantage of this approach, from a practical point of view, was that it provided a striking summary of French and European monetary fluctuations during the post-war inflationary periods with regard to the relative intensities, actual sequences and discrepancies in the movements of currency, prices and foreign exchanges during the different periods. This remained a necessary complement to studies such as those by Dulles and Rogers of the French franc and by Young or even Laughlin of European currencies. In the new edition, other statistical data appear relating to the depreciation period between 1931 and 1939, but all these data are now generally distributed throughout the various sections of the work. This organization of materials gives a much clearer picture of the author's methodological approach which proceeds from hypothesis to empirical verification at each step of analysis, although reflections of each chapter are only elements within the general theoretical study.

For those readers who may be impatient to get in a condensed form some clues to the author's analysis, it may be suggested that they go directly to Part III (Recent Experiments and the Theory of Foreign Exchange). It is not greatly modified, although it does contain a new chapter on the history of French foreign exchange from 1914 to 1939 and a new distribution of the

topics, with supplementary comments on the theory of manipulated exchange. A progressive criticism starting from oversimplified theories with regard to the "quantitative" point of view (balance of payments theories) and the "qualitative" explanation (purchasing power parity theory) leads to the "psychological theory of foreign exchange" where the necessary connections between qualitative and quantitative factors are shown in "three stages of explanation." Of course, it is not impossible to oversimplify the "psychological theory" itself, claiming, *e.g.*, that "it consists in opposing one aspect to another."[4] The question actually at stake is whether the "individual appreciations" can be relegated to a *first stage* of the approach (Heilperin) or necessarily come in at an intermediate one and cannot be dispensed with (Aftalion).

If we turn back now to the constructive scheme proposed by the author for his general theory of money, we may suggest that it is both less *simple* and less *exclusive* than many commentators thought. Most of the new developments are to be found in a new chapter II (Part II—Recent Monetary Experiments and the Positive Theory of Money), where he emphasizes his preference for the income approach in most cases. We already knew how he found its applicability in the cases where causation is going from foreign exchange to prices, and then to velocities; increases in the demand schedules coming from the nominal income of importers, shareholders of foreign securities, etc. More is said about currency issues for budgetary purposes, increases in gold production, credit inflation, and various kinds of influences from abroad.

The author also takes greater care to distinguish this approach from Wieser's, many readers having been confused by the tribute he paid to this theoretician who first pointed out the theory of the marginal utility of money income. But it was clear that Wieser did not have the same starting point and did not emphasize the influence of foreign exchange.[5] Furthermore, the author explicitly rejects all of Wieser's limitations concerning income outlays. Following this passage, he indicates the qualitative elements which have led him to surmount the *théorie du revenu* and to propose what he previously called the "psychological theory" and which he prefers, at present, to consider as the "positive theory" of money. (This title is given to Part II, yet the alternative terminology is also used.) This theory, after being verified in the light of recent experiments in England, Switzerland, and France (1931-39), is finally integrated—as in the first edition—in the general theory of value, with three stages of explanations showing how qualitative and quantitative elements work together, as for the theory of foreign exchange (which follows it in the book).

If we can realize that Aftalion's theory is less simple than generally believed when one tries to utilize his "income approach" as a substitute for the equation of exchange, we must add that it is less exclusive and even less ambitious too. For instance, he protests against Professor Marget's assumption that he generally considers the notion of velocity of circulation as an element of superfetation "which appears to be introduced in order to save the

[4] Heilperin, *International Monetary Economics*, p. 114.

[5] Ellis, *German Monetary Theory* (Harvard econ. stud., 1934), pp. 81 *ff*. and pp. 176 *ff*.

quantity theory of money": the expression he used in a particular case "does not carry a general import but does refer to the special hypothesis examined. . . ."[6]

We must recognize, however, that such an instance is of great importance. The author, challenging the traditional assertion as regards the "passivity of prices" in the equation of exchange, very often emphasizes the fact that rising prices are induced from rises in foreign exchange. Generally they themselves influence the V V′ factors through different increases of income and we can notice a process of progressive extension in the movement of prices beginning from import and export goods. The point at stake refers to a rapid movement in a period of extreme depreciation "without any processes of that kind." There is what the author terms "an insufficiency of the income theory," and a psychological explanation is required. However, the correct one would not be found in the increased velocity of circulation which follows from the fear of hyper-inflation, for the V factors cannot increase indefinitely as prices do (p. 245): "Is it not, in this case, this diffidence itself, this depreciation of the currency in the eyes of individuals, which would constitute the direct favor of the rise in prices?"

If we admit Aftalion's explanation, the demarcation line would not be between the quantity theory of money and the income theory, as suggested in Hawtrey's criticism of a "false antithesis" formulated by the author.[7] Both these theories are to be discarded as far as they would tend to be exclusive. A general and "positive theory" ought to explain all these reactions, even "psychological."

The author definitely discards the quantity of money approach, even for the "international theory of gold" (aggregate influence of gold production on world prices[8]); but here the income approach is only this "better explanation" that Professors W. Oualid and L. Baudin have in mind in their attempts at conciliatory schemes (Professor B. Nogaro remaining in France the most resolute anti-quantitativist).[9]

Very firm, however, in the rejection of the quantity theories, he never suggested giving up the "quantity equation" (to take Professor Marget's terminology) which, as he emphasizes, "has the great merit of compelling precise ideas" (p. 18). His particularly simple algebraic formulation: R (revenue, monetary income) = PQ, is not proposed as a substitute for the equation of exchange, but as a complementary device "exact only in certain cases" (first edition, pp. 157 and 175; second edition, pp. 179 and 225) and particularly useful to show discrepancies between PQ and R (which would equalize within an isolated country), or even between PT and PQ.[10]

[6] The author gives these precisions in a new footnote (p. 246, n. 1): ". . . introduced *at this point* [là], I have said . . ." *Cf.* Marget, *The Theory of Prices,* vol. i, p. 353.

[7] *Jour. of the Royal Stat. Soc.,* 1934.

[8] *Cf.* A. Aftalion, *L'Or et sa Distribution Mondiale,* Paris, 1932.

[9] For a bibliography of the French controversies, *cf.* L. Baudin, *op. cit.,* pp. 597-613.

[10] *Cf.* the distinction between *identical equations* and *equations expressing equilibrium conditions,* as emphasized in J. Marschak, "Identity and Stability," *Econometrica,* Jan., 1942.

We would have a better understanding of the author's attachment to the income approach if we could realize the rôle it played not only in this book, but also in his explanation concerning the re-equilibrating *stimulus* to the balance of international accounts[11] and even in his theory of cyclical fluctuations.[12] It is always an intermediate and necessary stage in his research, not at all a *first* approach or an ultimate answer. The author is never satisfied with simple formulae and tends to make (as did the Austrian school) a deeper psychological approach or even attempts general explanations that we may call "pluralist"[13] but are, at last, as the author points out, a scheme of the different influences acting on the supply and demand schedules.

One might be disappointed by these conclusions as they involve a reversion from quantitative statistical thinking to qualitative economics. The author, however, has shown himself to be, on all occasions, rather pessimistic.[14] But Professor Aftalion, while "anti-quantitativist" in the former sense, has given a sufficient impulse to "quantitative" economic research to give hope for an integration of more and more elements of statistical precision within the general framework he finally proposes.

Forty-five years ago, Walras welcomed the creation of an independent school of economics in the French law faculties which would put an end, in that country, to "a monopolistic exploitation under the sign of liberty."[15] Aftalion's scientific work gives evidence of the results obtained since that time. Just prior to the war some essays in his honor were ready to be edited by a second generation of economists which would have given a greater indication of the direction and ultimate implication of Aftalion's approach to economic analysis.

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Challenge to Karl Marx. By John Kenneth Turner. (New York: Reynal and Hitchcock. 1941. Pp. viii, 455. $3.50.)

The author's approach is distinctly one-sided: he is interested primarily in what is wrong with Marx. Such negative criticism undoubtedly has its uses but it also has serious dangers. It leads to a disproportionate emphasis

[11] *L'Equilibre dans les Relations Economiques Internationales* was only published in 1937, but the author had that idea in mind for a long time, as was suggested in newspaper articles quoted by the present reviewer (Jean Weiller, *L'Influence du Change sur le Commerce Extérieur,* Paris, 1929, pp. 182, 242, 253).

[12] We may go back not only to his very well known *Les Crises Périodiques de Surproduction* (Paris, 1913), but also to his thesis on Sismondi (1899).

[13] His different stages of analysis recall the different "depth-levels" of modern sociologists. *Cf.* Gurvitch, *Sociology of Law.*

[14] *Cf.* the conclusions of his recent book, *l'Equilibre dans les Relations Economiques Internationales,* rejecting both the self-confidence of orthodox theoreticians and the audacity of their opponents.

[15] L. Walras, *Etudes d'Economie Sociale* (Paris, 1896), pp. 456-57.

on inconsistencies, predictions that failed to materialize, tools of analysis we now regard as clumsy and obsolete. These are the inevitable accompaniments of the development of thought. Every creative thinker makes many false starts and arrives at conclusions by paths which later seem unnecessarily difficult. The task of sifting and evaluating is of course highly important. But its object should be constructive. Mr. Turner is too much concerned with exposing the defects in Marx and not enough concerned with discovering the things that are of positive value to present-day students of society.

Mr. Turner is in addition laboring under certain handicaps. He frequently points out that Marx's economics rests squarely on the foundation provided by Adam Smith and Ricardo. And yet he himself lacks the thorough-going familiarity with classical economics which is necessary to a full understanding of what Marx was driving at. The kind of error he falls into as a result is obvious in his discussion of the tendency to an equalization of profits:

> Before Marx, Ricardo had stressed the "emigration and immigration" of capitals as tending to produce an average rate of profit. It should not be necessary to say that there is no such mobility of capital as Marx pictures here. The farmer or merchant who is dissatisfied with the returns from his investment does not often find it possible to give up the old trade to manufacture automobiles or open a bank. If he is lucky enough to have surplus funds, he may buy stocks, but in that case he is more likely than not to lose his money, no matter how prosperous the enterprise may be (p. 140).

Mr. Turner further cites statistical studies to show that there is in fact no such equality of profits "as Marx imagines." The classical economists, of course, never said that profits in all lines would actually attain equality any more than they maintained that capital already sunk in one industry could readily be transferred to another. Mr. Turner would find if he re-read Adam Smith's chapter seven, "Of Natural and Market Price," that most of his difficulties were anticipated and satisfactorily disposed of by the great master. The same misunderstanding of the classical concept of Law comes out again in the discussion of the "Law of the Falling Rate of Profit," the "Law of Wages," etc.

A similar handicap appears in the author's lack of familiarity with the Keynesian theory of money, income, and employment. This lack is particularly serious in a student of Marx. Some of Marx's most important insights, ideas he was struggling to express with the inadequate analytical apparatus then available, become thoroughly clear for the first time in terms of the modern analysis. The latter, on the other hand, has much to learn from Marx.

Consider, for instance, the problem of accumulation. Mr. Turner's discussion starts out in promising fashion: " 'The life-process of capital consists only of its movement constantly expanding, constantly multiplying itself.' . . . the capitalist is a greedy fellow. In assuming the role of capitalist, he assumes the character of capital. 'His soul is the soul of capital. But capital has one single life impulse, the tendency to create value and surplus value. . . . Fanatically bent on making value expand itself he [the capitalist] forces the human race to produce for production's sake' " (pp. 104-05). But then Mr. Turner gets off on a sidetrack. He misses the vital point that the successful functioning of the capitalist economy is possible only under conditions which

permit the continued accumulation of capital. The modern investment-saving-income analysis brings out in detail why this is so. It shows exactly how an inadequacy of investment outlets produces depression and unemployment. Marx sensed the connection but was unable with the tools at his command to work it out in detailed, systematic fashion. His concept of accumulation, on the other hand, has important implications which the notion of saving lacks. Saving seems like too mild a force to produce such tremendous results. It is all too easy to assume that saving will automatically adapt itself to the need for it. Accumulation, on the other hand, is a relentless, driving force. It continues regardless of the need or opportunities for investment expenditure. Even depression and general impoverishment provide only a temporary stay. With every recovery of income, accumulation renews its pressure.

The analysis of accumulation—or saving and investment—throws significant light on other problems: wages, class conflict, international relations, the difficulties and possibilities of democratic action. These problems are greatly in need of serious and constructive analysis. Mr. Turner, unfortunately, has little to contribute on any of them, partly because his approach is chiefly negative and critical, but even more because he lacks the economic background necessary to understand what the real problems are.

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Agricultural Price Analysis. By GEOFFREY S. SHEPHERD. (Ames: Iowa State Coll. Press. 1941. Pp. viii, 402. $3.75.)

For twenty years intensive research in agricultural prices has been going on, somewhat unnoticed by the majority of economists. Sometimes this work has been crude; sometimes, unfortunately, tied up too exclusively with attempts at price forecasting. Now after many years of critical review, the statistical procedures have been modified and, at the same time, reliance on statistical analysis has become less marked. In turn, more attention is being given to the integration of the statistical study with the analysis of the marketing institutions and with the new developments in value theory.

Professor Shepherd has brought together and integrated the work done by the statisticians, by the analytical students of marketing, and by the theorists. All in turn is interpreted in light of changing institutions, with particular emphasis on government policy. This material is presented for "the reader who has a grasp of economics equivalent to that which he would get from one or two good courses in economic theory, . . . who knows something about agricultural marketing," and "knows something about statistical methods."[1] Though prepared as a textbook for advanced undergraduates, it is of distinct value to the professional economist and to those responsible for the government policy, both with respect to agricultural and to urban economic activity.

The feature of the book which stands out most is that three approaches

[1] From the *Preface.*

to commodity prices are interrelated and integrated: (1) The character of, and changes in, markets for farm products are presented not only in an early chapter on "The Evolution of Markets and Market Price Making," but also appear later in such sections as that showing the effect of government policy and of market decentralization on future trading, and of government policy on the competitive character of agricultural markets. Then these institutional changes are brought to bear forcibly on both statistical analysis and theoretical study of prices. The exposition and statistical illustration of the "price surface" idea certainly makes more accurate and understandable the geographical concept of a market and price relationship therein.

(2) Statistical procedures come to life for the student when he sees them used for the analysis of specific situations. Though the book uses these cases (mostly hog prices) for illustrations, the selection of price situations serves to show the scope of statistical analysis. The integration of this analysis with institutional change shows, for instance, that correlation analysis is limited by changes in the character of the market, and that the development of a larger spread between farm and retail prices may arise from somewhat permanent institutional changes. Of still greater significance is the integration of the statistical and theoretical analysis. Such concepts as "demand elasticity" and "change of demand," or of supply, are vitalized by being worked out quantitatively.

(3) This integration becomes more marked when the food stamp plan and milk control plans, cases of price discrimination, are studied. Here the nature and significance of value theory become clear. Similarly, the incidence of the processing tax on hogs (on the farmer until output is adjusted), the process of adjustment in the hog and cattle cycles, and the variability of farm and retail prices, all rest heavily on theoretical analysis supplemented by quantitative study. At the same time, institutional change and theoretical analysis are interrelated as in contrast of farm and industrial production and price-determining forces, and in the exposition of government policy.

Another outstanding feature of the book is that price and production control are explained and evaluated in terms of this integrated institutional, statistical, and theoretical analysis of farm product prices. Without judging the conclusions with respect to public policy, it can be said that here is a forceful answer to those who contend that theory provides no basis for public policy. For both the institutional and the statistical study of prices become meaningless, if not impossible, without being preceded by, and integrated with the theoretical analysis.

A few minor weak spots are present; no one is basic. In the theoretical analysis, the reader is sometimes left with a feeling of incompleteness. The discussion of price discrimination is a case in point (chap. 20). In contrast, "demand elasticity" is treated fully and precisely. Again, the treatment of deflation theory and statistical procedures could be interpreted as giving support to the idea that the general price level is itself a cause of agricultural price movements. Agricultural folk have been so prone to accept monetary cures for their ills that any statement which could be looked upon as giving the "general price level" a significant rôle is unwise. A vigorous presentation of recent

developments in monetary theory would have helped here. In fact, the whole discussion of both agriculture and industry during depressions would have been more clear-cut and more accurate if the income-consumption-investment analysis had been expanded sufficiently to clarify the readers' ideas on booms and depressions.

Finally, two parts of the statistical procedures deserve criticism. The reader is not warned sufficiently concerning inadequacies of data used in price analysis, particularly as compared to small differences in elasticities, etc., derived from such data. Though market price (possibly not farm price) data are probably more accurate than most industrial price data, quantity data, which are often not marketed volume but production estimates, have a considerable margin of error. Then a significant limitation of multiple correlation analysis, the assumption that the influence of independent variable B is the same irrespective of the value of independent variable A, is not brought out.

These criticisms are minor, however. Pioneering work necessarily has such slight weak spots which disappear in successive editions. In fact, one hesitates to mention them in light of the obvious merits of the book. Certainly students who go through this book will gain a firm grasp of price analysis, and the professional economists who peruse the presentation with care will find a realistic exposition of price-making and will gain a clearer view of price control problems and policies, particularly in agriculture.

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Theory of the Just Price. By RUDOLF KAULLA. Translated from the German by ROBERT D. HOGG. (London: George Allen and Unwin. 1940. New York: Norton. 1941. Pp. 219. $2.25).[1]

The author of this book is quite aware that there can be no ideal, *a priori* just price. According to his analysis, ". . . prices of all commodites which are not strictly necessary to the satisfaction of vital needs can be maintained at whatever level suits the policy of the economic power-group concerned . . ." (p. 160). With respect to the necessities of life, however, an upper limit of prices and a corresponding lower limit to incomes are required. Should the prices of necessities tend to rise beyond the possibility of acquiring a subsistence-minimum, men will seek the aid of the state.

Elsewhere the author realistically discusses the rôle of government in resolving conflicts of economic interests (*e.g.*, pp. 182, 215). In the last chapter he considers governmental activity in connection with minimum wages, tariffs, and efforts to prevent the growth of monopoly. His own position is that "the State cannot help taking sides; it must do so, however, not in the interest of this or that particular group, but in order to serve the cause of the *common* welfare" (p. 217).

[1] The German edition of this book was reviewed by John V. Spielmans in *Am. Econ. Rev.*, vol. xxviii, Mar., 1938, pp. 120 *f.*

Kaulla stresses the importance of the legal structure in the determination of value. He maintains that state intervention is a necessity for a highly developed economic system. Contrary to the basic assumptions of prevailing economic theory, he asserts that "there are three terms, not two, in the problem of value: the object valued, the individual who values it, and the active presence of the *State*" (p. 95). Although the classical school stressed the object and the marginal utility school the subject, neither group considered state interference as anything more than an irregular disturbance of natural processes.

This is reflected, according to the author, in the attitude toward taxation, which has also been treated as a form of state interference in the "natural" course of economic life. Nevertheless, the persistency with which taxes continued to be levied required attention to problems of shifting and incidence. Such attention implies an interest in determining whether the taxes are "just." On the other hand, because of the underlying assumption of natural economic processes, scarcely any attention has been directed to the larger problem of the passing on of costs in general. From the point of view of just price analysis, this problem is obviously of the greatest significance, for the "justice" of prices depends ultimately upon the way in which costs are shifted.

The book's German origin is reflected in the author's constant use of the term "State." A more euphemistic expression would be more appealing to American readers. Nevertheless, the relationship of the author's thesis to American affairs cannot be altogether denied. As a matter of fact, a comprehensive study of American developments would be of considerable interest. Such a study might very likely suggest that in a rough and tumble way we appear to have been moving in the direction of "just" prices without often realizing it. Certainly the relationship between our agricultural policies, for example, and a just price analysis is fairly clear. A thorough study of all price-fixing might even suggest the need for a reorientation in the methods and objectives of political economy.

Meanwhile, those seeking clues which may be helpful in arriving at a more adequate theoretical summation of economic developments will doubtless find at least some features of this little book suggestive. It has been translated into good English and is easily read.

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Essential Economic Principles. By ARCHIBALD MACDONALD MCISAAC and JAMES GERALD SMITH. (Boston: Little Brown. 1941. Pp. x, 504. $1.50.)

Essential Economic Principles is a revised version of *Introduction to Economic Analysis* and it is offered as an alternative to the latter. In general approach, the newer treatment follows the lines of the original volume. Certain chapters have been rewritten and some of the material has been rearranged but, with exceptions to be noted below, it is the same book in an improved form. One wonders about the location of the boundary line that

determines whether a new writing shall be called a revised version or shall rather be given a new title. However, to the teacher who must explain the advantages of product differentiation, this example offered by the publishing industry will be gladly received.

The book will of course be welcomed by those who believe that the chief objective of a beginning course is to give the student a clear grasp of the theory of value and distribution. Within this framework the treatment is impeccable.

The arrangement is conventional and logical. An examination of the simple concepts such as demand, the elasticity of demand, pure competition, leads up to a discussion of the short-run and long-run equilibrium of the firms and of the industry in conditions of pure competition and monopoly. The theory of distribution is also treated along conventional lines. There is an analysis of the relationship of a factor's marginal production and the demand for that factor and also of the significance of the elasticity of supply of the factor to the firm.

In the original volume, the connection between the demand for any factor and the cost functions of the firm was shown and it was shown that producer's demand could be computed in part from a knowledge of these cost functions. The present marginal productivity formulation, while it adds nothing to the substance of the earlier analysis, is probably to be preferred from a pedagogical point of view. This is perhaps the most substantial improvement in the rewriting.

The treatment of the interest problem is also somewhat better. Of course, it is by no means complete for there is no discussion of monetary institutions in the book; for that matter, there is scarcely more than an acknowledgment of the rôle of labor organization in the discussion of wages. However, it is unjust to criticize a book of this sort for what it omits. It is merely one of a series and it is designed for use in conjunction with other volumes in the series.

In comparing it closely with the earlier formulation, one is impressed with the ability of the authors to simplify certain parts of the original treatment that proved to be unnecessarily difficult. For what the authors try to do within the fields of value and distribution, there must be full praise. However, when with utterly inadequate weapons they venture out into the great world of aggregate demand for goods and factors, and of the business cycle, it is then that serious criticism is in order.

One does not have to rely on Keynesian doctrine to discover authority for pointing out the crucial difference between the effects of a change in any one variable; for example, in wage rates, on the firm or on a small industry on the one hand and, on the other, the effects of a similar change upon the whole economy. Professor Pigou also emphasizes this distinction. Value theory, as ordinarily conceived, is designed to explain the allocation of factors between industries and it can be used to explain the nature of the aggregate supply function. But it should not be used—or perhaps it should be used differently—to analyze what Keynes and Pigou call the aggregate demand function.

While we can derive the demand for labor in any one firm on the assump-

tion that conditions including wage-rates) in the rest of the economy are given, we cannot secure an aggregate demand function for labor over the whole economy by simply adding together these individual schedules. A complicated adjustment is required. Anyone who has struggled with the problem of the effect of a change in wage rates on employment will agree about the need for that adjustment although there will probably be no general agreement as to its nature.

A full treatment of this problem would perhaps not be possible in a book on this elementary level and, at this stage, there is perhaps too little agreement on fundamentals among students of such questions. But, in that case, rather than using weapons which were never forged for the treatment of business cycles and of the problems of aggregate demand, an elementary textbook could make a notable contribution by pointing out the uses and the *abuses* of the theory of the single firm and of the industry; that is, of our accepted theory of value. Its use within the appropriate framework is clear, but the temptation to use it outside that framework is difficult to resist.

In spite of all the authors have to say about price inflexibility and changes in weather and tariffs, and so on, in their discussion of these problems of the economy as a whole, they do not confine what they have so clearly expounded to its proper place. But in that respect they follow the example of almost all texts.

Otherwise, as has been noted, the book provides a clearly presented and up-to-date statement of value and distribution theory.

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Economic History

French Interests and Policies in the Far East. By Roger Levy, Guy Lacam and Andrew Roth. I. P. R. inquiry series. (New York: Am. Council, Inst. of Pacific Relations. 1941. Pp. xi, 209. $2.00.)

An introduction and six chapters by Roger Levy, entitled "A Century of French Far Eastern Affairs," is ostensibly the pièce de résistance here. To the end of chapter III, France's cultural and economic achievements in China and Japan are ably summarized, with the warranted emphasis on missions. France's mediocre trade position is formally explained chiefly in terms of the small number of active French business men in the Far East. The character of French investments, which are mentioned in some detail, suggests a tendency to take fixed rates of interest rather than risks, but the author does not mention this point. Indo-Chinese trade, including that with France, is sketched on pages 22-26 in connection with Franco-Chinese economic relationships. This discussion could have been greatly strengthened by more attention to the imperial tariffs and the price levels involved. Chapter IV, on French trade in Southeast Asia and in the Pacific, is short and desultory,

with almost no emphasis upon Indo-China. The two remaining chapters deal with France and the Sino-Japanese conflict to about the end of 1938.

It is these last that Lacam's three chapters on the economic relations of Indo-China "supplement." In fact, they do far more: this paper is practically an independent one by a man familiar with the country and the trade statistics. Disorders in southern China, difficulties of communication which even railways and one good road could not overcome under peacetime conditions, the resistance of Chinese authorities to foreign economic collaboration, low purchasing power in southern China, and the lack of contrast in excess commodities are the main reasons given for the minor amount of trade across the land frontier and the inability of land routes to compete with Canton and Hong Kong for what there was. A final chapter of three pages sketches the effect of the war (or "China incident") for a little over a year, to "Munich."

Part II (French Indo-China in Transition, 1938-1941) is in a sense a "supplement" by Mr. Roth to the earlier part of the book, but it is work of quite a different character. Dealing with a short period, from Munich to about March, 1941, it justifiably—and necessarily, I think—follows a narrative pattern; for the timing of these events is all-important to any clear notion of their unfolding. The account falls into three divisions: I, from Munich to the outbreak of the European war; II, France at war, to the collapse in June, 1940; III, Indo-China adrift, from June, 1940, to March, 1941.

The author has used great industry and entire frankness in drawing upon what sources were available for such recent events in a region about which it has always been hard to get information. Especially considering the difficulties and the nearness of the events, this is an amazingly factual and calm recitation of one of the least credible dramas in modern history. It is an account of what the Japanese wanted in and with Indo-China and how they got it, together with the parts played by the French factions, the Chinese, the Siamese, the British and ourselves. Nothing short of the present situation, a year beyond this study, could have shown how revealing it genuinely is. Considering the ease of reading this book from pages 53 to 70 and from pages 85 to 197, I can think of few enterprises more to be recommended for getting a clear-cut general introduction to what is now going on in Southeast Asia. The account is itself so compact that an attempt to "review" it in a few paragraphs would be absurd. Incidentally, it is easier to criticize the French authorities, in Indo-China and in Vichy, than to point out exactly what they should have done.

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Economic Systems; National Economies

The Structure of the Nazi Economy. By MAXINE Y. SWEEZY. Harvard stud. in monopoly and competition no. 4. (Cambridge: Harvard Univ. Press. 1941. Pp. 255. $3.00.)

Mrs. Sweezy's book, the fourth of a series of monographs on selected as-

pects of the general problem of monopoly and competition, is a well-documented scientific analysis of the structure of the nazi economy. Its only weakness, which cannot be helped, is the fact that Mrs. Sweezy's investigations, results, and conclusions are based on German official figures and statements. Mrs. Sweezy, however, has taken great pains in scrutinizing the official figures in order to determine their objective value and has used German statistical data with the utmost care. Her close observation of the working of the nazi system—made possible by a traveling fellowship—has enabled her to present a trustworthy picture.

The monograph begins with a short description of the status of Germany's economy before Hitler and of Germany's economy under Hitler up to the outbreak of war. As is commonly known today, the nazi economy even before the war began was a war economy and therefore few changes were necessary when war actually broke out. Mrs. Sweezy then shows the extent to which the state in Germany directs and controls economic activities. On the one hand, the Nazis hastened to return to private capital a number of monopolies held or controlled by the state, including banks, demonstrating thus to a capitalistic world their anti-socialistic tendency. On the other hand, they have built up—apart from Russia—probably the greatest state concern in the world—the Hermann Goering Works, a true industrial empire.

The best chapters of Mrs. Sweezy's book are those on corporations, income, consumption, and social welfare. Mrs. Sweezy has previously dealt with German corporative profits and the distribution of wealth and income under the Nazis.[1] Her analysis of the changes in the profit ratios for corporations is illuminating. It should be read carefully by all who are trying to understand the structure of the nazi economy.

Mrs. Sweezy tries to answer the all-important question as to who is gaining and who is losing in the nazi economy. Her conclusion that it is capital which has been favored by the Nazis will be doubted by many observers, but Mrs. Sweezy gives many facts to support her statement. A considerable rise in the profit ratio, based on the change from a depression period to a boom period, is contrasted with the stabilization of wages at the depression level. In spite of increases in employment and in working hours, the percentage of earned income in the national income fell from 69 per cent in 1929 to 63 per cent in 1938, while the percentage of total income from various kinds of property rose from 22 per cent of the national income in 1929 to 28 per cent in 1938. The average inequality was greater in 1935 than in 1931. However, it should be noted that, at least for the duration of war, all capital is at the disposal of the government and though no confiscation has taken place, capital had "voluntarily" to give up the right to dispose of its money at will. There is, however, as Mrs. Sweezy points out, one group in Germany which appears unequivocally to draw special favors from the Hitler government, and that is the National Socialist Party and its affiliated organizations. Many of its functionaries have entered the field of industry and all who are in the

[1] See *Quart. Jour. of Econ.*, May, 1940, pp. 394-98; *Rev. of Econ. Stat.*, Nov., 1939.

unfortunate position of having to compete with them are at a distinct disadvantage.

Mrs. Sweezy destroys the legend of a superhuman genius who directed Germany's financial system. She shows that Germany's price and financial policies never followed a preconceived plan. Each emergency was met as it appeared. All who hold that the collapse of German economy is just around the corner on account of its faulty financial policies will be disappointed. The German system seems to her to be soundly based on a tight control over capital and investment markets and over wage rates and prices.

Not quite up to the standard of the book is the chapter on regimentation and conscription of labor. Mrs. Sweezy evidently takes the German labor front as a labor union. She believes the Nazis have "reorganized" the labor unions because "The National Socialist Government recognized that destruction of the labor unions might strengthen radicalism among the workers" (p. 161). But the Nazis *did* destroy labor unions.[2] Nor do the Nazis deny it.[3] Not for a second would the Nazis allow the German labor front to be taken as a labor union, and any attempt to classify it as such is condemned to failure. The labor front consists of employers *and* workers. The employers do not have "representation" in the labor front, but they are a part of it. In addition, the labor front has no authority to deal with matters concerning wages, hours of work, or other working conditions, which are the main objectives of a labor union.

Strikes have never been prohibited by law. Labor disputes, if not settled by mediation, still go to the Labor Courts,[4] while the jurisdiction of the Social Honor Courts is confined to different types of violations, as enumerated by Mrs. Sweezy on page 166.[5] Overtime for the ninth and tenth hours of labor was restored by an order of September 3, 1940, as a consequence of continued resistance on the part of the workers.

Mrs. Sweezy is right in saying that the provisions of the Social Honor Courts seem to be directed mainly against workers and less against employers. But, contrary to expectations, the majority of the cases brought before them have been directed against employers.[6] The reason probably is that there are other, more effective means available to the authorities for dealing with violations on the part of the workers. Experience so far has fully confirmed Mrs. Sweezy's other contention that, as far as the employer goes, the law is likely to be applied against owners of small shops. Out of 189 cases against employers which arose in 1936, nearly three-fourths involved handi-

[2] See P. Waelbroeck and I. Bessling, *Labour Policy in Germany under the Nazi Regime* (Montreal: Internat. Lab. Office, 1941), p. 14.

[3] See *Bulletin of the World Economic Archives of Hamburg*, No. 13, May 1, 1935, p. 6.

[4] Not to the Social Honor Courts; see Sweezy, p. 164.

[5] The enumeration leaves out the most important offense: A member of the confidential council can be punished "if he interferes deliberately in the conduct of the establishment or maliciously disturbs the community spirit in the works community."

[6] In 1936 the Social Honor Courts had to deal with 251 cases, 189 of which were directed against employers. See *Pol. Sci. Quart.*, 1938, p. 366.

crafts, agricultural, and small industrial enterprises. It should be noted that the figure of 251 cases in 1936 for the whole of Germany is very small indeed and has since further declined.

Mrs. Sweezy's book is a most valuable contribution and will help to clarify many confused notions which are current regarding the structure of the nazi economy.

JOSEPH MIRE

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A French View of the Netherlands Indies. By G. H. BOUSQUET. Translated by PHILIP E. LILIENTHAL. (New York: Oxford Univ. Press, for American Council, Institute of Pacific Relations. 1940. Pp. viii, 133. $1.50.)

As a foreword explains, much of the "Moslem policy" part of the original French book on *Dutch Moslem and Colonial Policy* is omitted from the translation, and a chapter on the international position of the Netherlands Indies added. The English title does not fully suggest the peculiarities and limitations of the study.

Professor Bousquet went to study Moslem policy. This would seem to exempt him from references to Indo-China. However, he admits that the Indonesian culture is largely intact beneath the Moslem superstructure in the Netherlands Indies, and frankly regrets his inability to make the suggested comparisons. This still seems to me lame, for he asserts the superiority of French policy, in material respects and particularly in spiritual ones, without proper allowances for the fact that North Africa is a really Mohammedanized country in the Temperate Zone and at the doorstep of Europe. The author admits that the "modern reform movements" in the Netherlands Indies, though Moslem in name, have been basically nationalist in fact. This does not apply to North Africa, save to some extent in Tunisia.

Political reforms since 1900 have not given the Indies a parliamentary system, which Professor Bousquet thinks they need. The French example, if any, somehow escapes me. Nevertheless, some criticisms of the extreme rigidity of Dutch native administration, regardless of high-grade personnel and the most detailed of cultural investigations, are much to the point. This general policy of minutely planned paternalism is modified in a curious way which Vandenbosch and others are criticized for neglecting. "Prentah aloes" or "gentle compulsion" introduces local flexibility of action into the general system as seen on paper by the use of oral rather than written instructions. Thus what is flatly illegal can be done locally without serious danger of a rumpus, since nobody is formally responsible and everybody has an interest in keeping the surface smooth.

There are chapters on the "process of civilization" (the "progress" of Europeanization, largely) and on "Dutch colonial character" (compared with French). The added chapter on the "International Position" deals with trade, with the rights of culture groups, etc., quite briefly. There is not much on "conditions" in the sense of the economist as such. Nevertheless, this is an

illuminating "background" book under an English title which is not so illuminating regarding the subject matter.

M. M. Knight

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Statistics; Economic Mathematics; Accounting

Statistical Cost-Functions of a Hosiery Mill. By Joel Dean. (Chicago: Univ. of Chicago Press. 1941. Pp. ix, 116. $1.00.)

Since studies of empirical cost functions are all too few relative to the interest in the subject, this recent contribution should be welcomed by all. It seems evident to this reviewer that if progress is made in economics, it will come from such studies as these which attempt to analyze actual data in the light of a formalized methodology. It is better to measure imperfectly than not to measure at all, for only through actual measurement can we appreciate the unreality of our theory and the complexities of concrete situations. Professor Dean has been a pioneer in the field of cost determination, and this recent study reflects the wealth of experience acquired in previous research.

His treatment of the data shows an appreciation of difficulties that may arise when dynamic facts are considered as elements in a static schema. Careful selection of his time period and of the particular plant studied greatly increased the validity of his analysis. For example, constancy of the size of physical plant, a minimum amount of technical progress, stability of management, uniformity and completeness of cost records, and a number of observations large enough to permit generalization were all sought and are quite well achieved in the present study. The existence of a wide range of output was also attained, but unfortunately the variation occurred mostly between two periods, one of a high level of output and the other of a much lower level. According to the data in Chart 13 (p. 49) output was between 3,000 and 4,800 dozen pairs for the first 34 months and between 400 and 3,000 pairs for the last 14 months.[1] This is a very serious flaw in the data since it is very difficult to separate those changes due to time from those changes due to output. In the last period we have no output equivalent to that of the first period and so cannot analyze the variance that might have occurred in the cost of identical outputs at different periods. Furthermore, there is a bunching of the observations around certain output levels seriously impairing the significance of the correlation technique which is used in analyzing the data.

The rectification and adjustment of the various costs is very well done in light of the many difficulties present. For example, the cost of silk was omitted "partly because the dominant importance of this variable cost would obscure minor departures from linearity in operating costs and partly because silk cost could be allocated to individual items with sufficient accuracy to raise no problem in the determination of marginal cost. Since silk costs are assumed

[1] Data in this chart present costs instead of quantity, but conversion of costs into quantity can be simply computed since this chart assumes linear total cost.

to be proportional to output, their elimination may prevent rather than induce an exaggerated appearance of linearity. The justifiable suspicion that silk costs might increase more than in proportion to output at extreme levels of operation as a result of wastage and spoilage is not borne out by the analysis of replacement cost" (p. 38). In other words, Professor Dean has not approached the problem by a hammer-and-tong method in following literally the dictates of the theory, but has rather used an intelligent appreciation of how to achieve his purpose by other than direct methods. The breakdown of costs used is quite extended, certainly coming up to the standards required by the problem. Furthermore, intelligent omission of such things as stationery, traveling expense, freight and express, building repairs, oil, etc., seemed quite justifiable on the ground that they would have little to do with the shape of the cost function or else that they were relatively unimportant and would contribute little to the analysis. The use of monthly data greatly facilitates the employment of lags in relating cost to the proper output.

After such treatment of the original material, Dean then presented his rectified and adjusted measurements in the form of scatter diagrams. One could well wish that more writers would follow his excellent example since this form of analysis enables the reader to gain a better understanding of the data than could be achieved by any possible number of statistical devices. It is unfortunate, however, that nowhere in the whole study were the original or adjusted data given in other than scatter diagram form. This made further computation on the basis of Dean's data impossible and many readers will be quite disappointed since no checks, other than those occurring in the analysis, can be brought to bear on the reliability and significance of the regressions.

These scatter diagrams substantiate a point which was mentioned above, namely, that the majority of the cases are concentrated within a small range of output. Over forty per cent of the observations occur within an output range which is only ten per cent of the total output range; within an output interval constituting over fifty per cent of the total output range, only seventeen per cent of the observations may be found (p. 22).

Output	0	4	8	12	16	20	24	28	32	36	40	44	48
No. of observations	1	3	4	2	2	0	1	2	4	18	10	1	

The scatter diagram reveals one more important factor to be considered. In the ten per cent of the range of output within which forty per cent of the observations lie, the variation of costs is quite wide. For example, an output of 37,000 pairs of silk hosiery cost at one period $60,000 and at another period $90,000. This is most disturbing in light of the highly rectified data which have been deflated for all price changes. Indeed it casts serious doubts on the significance of the values obtained for observations in other parts of the output range. It is quite proper to ask the question as to whether, if the observations had been more numerous, we might have had an equivalently wide scatter over the other parts of the range of output. If this were so, the

correlation coefficients would be much lower than those which were actually found by Professor Dean, and absolute linearity of the total cost functions would be almost impossible to establish.

It is unfortunate that Professor Dean does not develop the analysis of these variations. Perhaps some sort of procedure such as accountants use in explaining the variance of actual cost from the standard cost set-ups could be employed here. Influences other than merely output variation have had a decided bearing on cost. Dean's nearest approach to solving this problem is the exploration of a number of independent variables in order to ascertain their effect on cost. With the exception of the magnitude and direction of change of output from the previous output period, all the independent variables were found to be of little importance.[2] Further analysis indicated, according to Professor Dean, that linearity was present between the average first differences of cost and magnitude and direction of change in output. In other words, "short-run changes of cost tend to be proportional to changes in output regardless of magnitude or direction of the change" (p. 43). It must be noted here that this does not mean that the total cost output regression is linear. The above linearity can exist with curvilinear total cost output regressions if the level of output and the magnitude and direction of output change are unrelated.

Actual analysis of the rectified data of cost and output is developed according to whether it is productive labor cost, non-productive labor cost, or overhead. The total of these becomes combined cost. Linear regressions were fitted to all sets of the data and the justification for such procedure was based on: (1) analysis of marginal and average cost behavior, and (2) analysis of curvilinear regressions.

Unfortunately no scatter diagram was given for the relation between average first difference and output. We are told that a horizontal line fitted the data best, but no supporting evidence is given. The correlation is extremely low, .18 ± .15, and it is hinted that the scatter is quite wide (p. 43). It would seem probable, in light of the correlation and wide scatter, that quite a few non-horizontal lines might be fitted. Certainly there would not be much danger in lowering the correlation coefficient by very much. Average cost analysis yields a regression which decreases with increasing output, approaching a horizontal position at the highest level of output, if the wide scatter is neglected. Unfortunately, however, we should not neglect this since the exact shape of the average cost function is important. In any case, even if a regression of the type suggested were the correct function, all this would tell us would be that marginal costs did not rise appreciably above average costs at high levels of output. In the case of both marginal and average cost analysis, then, it is impossible to choose between linear and non-linear total cost output regressions since both could occur with the existing data.

The statistical tests of linearity, furthermore, are no more satisfactory. Dean has shown quite ably that the regression coefficients of the parabolic

[2] Some of these are: Style variation, difference in specifications, seconds, backwinds, transfers, replacements, style changes, specification changes, difference in piece rates, technical progress, shifts, labor turnover.

and cubic regressions are small relative to their standard errors so that zero coefficients for the squared and cubed terms are quite probable (and thus linearity). This, however, is no solution. Unlike other mathematical situations, it does not follow here that the less complicated function is better if fully as significant as one of a higher order. In an economic sense, a linear relation is no "simpler" than a curvilinear relation. Furthermore, it will be seen from Dean's analysis that curvilinear relations are statistically as signficant and probable as linear relations. He is quite right in pointing out that, while the cubic regression fitted to the data may be statistically probable, yet, due to the fact that its signs are opposite to those needed to describe the marginal cost curve of economic theory, we may quite well reject this curve. Since, however, the standard errors of the squared and cubed terms are large relative to the coefficients, it would be quite possible to have, within the standard error limits, an orthodox U shaped marginal cost curve which varied considerably over the range of output. In reality we find that no test rejects a linear regression, but neither does any reject a curvilinear regression. It would have been of great interest had Professor Dean divided the data into two groups—for example, outputs 0-20 and 24-48— and then fitted linear regressions to each of these groups. If this had been done, I believe that the slopes of these regressions would have been found to be quite different from each other. This should not occur if the sample were sufficiently reliable and marginal costs actually constant over the given range of output.

The statistical tests of linearity as conceived by Professor Dean seem to admit strong probability of large variation in marginal cost. In the parabolic equation the standard error of the squared term is large enough to allow the possibility of either increasing or decreasing marginal cost.[3] If the true coefficients of the squared term were at the lower limit of the standard error, then at 4,000 dozen pairs marginal cost would be about 90 cents above the marginal cost at 45,000 dozen pairs. If the true coefficient were at its upper limit of the standard error, marginal cost at 4,000 dozen pairs would be 64 cents below the marginal cost at 45,000 dozen pairs. This would represent a large percentage change since marginal cost of a linear regression figured by Dean came to about $2.00. The cubic equation, being of a higher order than the parabolic equation, could naturally exhibit fully as much variation as the parabolic curve, since by considering the cubed term as very small or zero we would have a parabolic curve. Since actual data are lacking, estimation of marginal cost variation in this case is difficult.

It is interesting to note that in the appendix, where weekly data are analyzed, marginal cost of the parabolic curve falls from about $3.75 when production is at 4,400 dozen to about $1.50 when production is at 8,000 dozen. The range here is smaller than in the case of monthly data, and yet the variation is considerable. The reason Professor Dean rejects a parabolic

[3] It has already been noted that the distributions of observations are in no sense "normal" and so, as Professor Dean points out (p. 48), "the conditions necessary for the validity of such tests are not met by the cost and output observations. This may mean that the limits of error are much wider than those presented here."

regression in the case of weekly data is based on the argument that the monthly data yield linear regressions. In the opinion of this reviewer, there is no greater statistical evidence for constant marginal cost than there is for increasing, decreasing or parabolic marginal costs. I would be inclined to agree with Professor Dean, however, that constant or nearly constant marginal costs are probably correct in the case of this mill. My impression of this is derived from the excellent description of the mill contained in this study and not from the empirical cost data which are presented. The possibility of this conclusion being wrong cannot be statistically checked due to the limitation of the empirical cost and output data.

It is important theoretically that such uncertainty arises as to what the actual shape of the marginal cost function may be. If an entrepreneur cannot know within a wide margin what his incremental costs may be, we find that much of our theory will break down. In one sense we are interested not in what the cost function is, but what it is considered to be by the producer. Therefore, if it is impossible to discover empirically what the function may be, it may have little or no relation to what the producer believes since he too will be in a state of ignorance. Dean has presented us with a case in which the dynamic elements have been eliminated as carefully as possible, but reality is even more complex and the producer is forced to consider these elements. It is easily conceivable that the concept of sharp-edged equilibrium may have to be revised and limits set up within which it is realized that cost elements will not determine the quantity of output. Perhaps cost analysis as revealed by empirical cost studies can never solve the problem of what actual cost output relations would be. Further exploration of the cost function may quite well be in order by concentrating on the physical counterpart of those cost items which are crucial in the analysis of marginal cost. In any event, the efforts of Professor Dean are a valuable contribution in this field, revealing many of the difficulties that must be met.[4]

RICHARD RUGGLES

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Public Finance; Fiscal Policy; Taxation

The Taxation of War Wealth. By J. R. HICKS, U. K. HICKS, and L. ROSTAS. (New York: Oxford. 1941. Pp. x, 304. $3.50.)

A more timely book than this would be difficult to imagine. Presenting an interesting and, considering the pressure under which it must have been written, a remarkably thorough analysis of the excess profits tax and the capital levy, this volume is required reading for anyone seriously interested in the problems of taxation during a period of intense war effort.

[4] In connection with this review, attention is called to an article by Mr. C. Reinold Noyes, published in the September, 1941, issue of *Am. Econ. Rev.*, pp. 473-92, "Certain Problems in the Empirical Study of Costs."

The contents fall into two well-defined parts. There is a theoretical analysis concerned with the general problem of war finance, but placing especial emphasis upon the kinds of taxes which are presumed to fall upon incomes associated with the effects of the war effort itself, and the so-called "capital levy." In addition, there is a series of chapters which presents in summary fashion the experiences of nations that have already attempted the application of this sort of taxation. The latter will not prove quite as interesting to most readers, who will be well advised to focus their attention upon Parts I, II, and V which contain the generalizations relating to the proper form and rôle of the taxes on war wealth, and for which Mr. J. R. Hicks assumes primary responsibility.

The central thesis is laid down in the Preface and runs as follows:

"The greater part of the cost of war needs to be met out of taxes which fall in the ordinary way upon ordinary incomes." Based as it is upon a comparatively thorough study of the special taxes associated with war, this conclusion is apt to be quite unpleasant to a great many people, especially those who are inclined to place major emphasis at the present time on the development of the excess profits tax. And yet it is very difficult to disagree with Mr. Hicks's conclusion. The main objective of war taxation is the control of consumer income. If this is to be accomplished a tax system must be constructed which is broad in its scope, quick and flexible in its impact. The war taxes discussed by Mr. Hicks are not very satisfactory when judged by these criteria.

The excess profits tax is, in the absence of the extreme price inflation which it is supposed to assist in preventing, relatively narrow in its impact; fails for the most part to tap the chief source of consumer income, wages. In this respect it is even less satisfactory than a tax on corporate net income would be, and the latter itself cannot qualify as the chief weapon in a war finance scheme because it has a relatively narrow scope.

If constructed according to traditional plans, the capital levy would fall beneath the same charge. It too would miss a large proportion of the total income of the civilian economy; it too would have to be supplemented with other taxes, and the latter rather than the capital levy itself would be the primary instrument for the control of consumer income.

From the point of view of flexibility and rapidity of collection neither capital levy nor excess profits tax makes a good showing. By its very nature the levy cannot serve as a part of a continuing program and the delays involved in its administration are notorious. The excess profits tax might be made to give some flexibility to a revenue system, but the extreme difficulty of defining excess profits and translating the definition into detailed administrative rules tells heavily against the possibility of even reasonably prompt collection. This is a very serious defect from the point of view of the primary objective of war taxation.

Yet Mr. Hicks is aware, as all of us are, that extreme pressure will be applied to use these special war taxes as a means of extracting a large contribution from persons in the upper income brackets. Moreover, Mr. Hicks is aware that a failure to satisfy the demand for this sort of taxation will be

quite unfortunate in that it will place a selling point of major importance in the hands of people who are attempting to head off measures intended to control lower bracket incomes. Hence the conclusion can be reached that at least the excess profits tax is desirable even though it ought not to be treated as the keystone of a war tax program.

The question then arises as to the form which such a tax ought to take. There are two fundamental choices which must be made. Is the tax to be imposed on the excess profits of business or corporate business taken alone? Or is the tax to be a general levy on added income applying to persons as well? The second question is the choice between a tax levied on high incomes generally and one which is aimed specifically at additional income obtained during the war period, which is over and above that arising during the years prior to the impact of the war boom.

The somewhat guarded approval which Mr. Hicks bestows upon an added income tax on persons used as a supplement to an excess profits tax on business must be viewed somewhat critically if one has in mind the application of the conclusions reached to the tax program of the United States. A tax on added income of this sort requires a comparison between income received during the pre-war and that of the war period. The data for such a comparison are meagre in this country because of the limited scope of the pre-war personal income tax. This fact, taken together with the added difficulties of administration involved, raises a distinct presumption against a levy of this sort in our own case, especially when the measure is used as a substitute for additional rates applied under the ordinary personal income tax. While this conclusion seems inescapable, it is disappointing because the idea of a general tax on war income is very attractive in itself and becomes increasingly so when one observes the erratic manner in which the war affects the economic status of particular individuals.

Mr. Hicks also bestows his blessing upon the so-called "war profits" as contrasted with the "high profits" form of excess profits taxation. This boils down to the general use of the so-called "base period income" formula, a most interesting conclusion in view of the implicit approval bestowed upon the form of the excess profits tax now in use in this country, especially since that form has been the object of persistent criticism on the part of the federal treasury and recently has been attacked by a very distinguished American student of excess profits taxation.[1]

The objection to the position taken by Mr. Hicks is easy to see. The process of constructing a tax on base period income grants unusually favored treatment to firms enjoying large profits in the base period, including those firms whose profits are ordinarily large because of monopoly position. Yet the logic of a tax calculated on base period income is far more appropriate to the desire to levy upon the windfall profits of a war period than the sort of levy which is constructed on the basis of excess profits defined in terms of a percentage return on the investment in the enterprise in question. The latter

[1] C. Shoup, "The Taxation of Excess Profits," *Pol. Sci. Quart.*, vol. lv, pp. 535-55; vol. lvi, pp. 84-106; 226-49.

form is far more consistent with a policy designed to set up a permanent tax on high profits intended to serve primarily as an instrument for attacking the so-called "monopoly problem." There is considerable reason to believe that this is the underlying objective behind the current proposal to amend the excess profits tax so as to eliminate the option to use the base period income formula. To precipitate at this time a debate over the use of taxation as a device for trenching upon monopoly position seems distinctly unwise from a political and economic point of view. If, on the other hand, the object of the legislation is restricted to the taxation of war profits, Mr. Hicks's conclusion and the implicit support of the form of tax now in use in this country seems fully justified.

Mr. Hicks has a good deal to say concerning economic incentives during a war period. He is inclined to the opinion that at least during the early years of the war effort, care must be taken not to take away so large a percentage of marginal income as to dampen unduly the enterprise of the business community. This means of course an implicit condemnation of very heavy rates under the excess profits tax. Clearly the 100 per cent rate formerly in use under the British levy was ill advised and the substitution of a blocked account for the last 20 per cent of this rate was fully justified by Mr. Hicks's logic. It may well be, however, that he underestimates the need for a profit stimulus during the later years of the war effort. So long as any substantial body of policy decisions remains in the hands of private enterprise the wholehearted coöperation of the business community is vital for the war effort, and the complete or nearly complete elimination of the motive to which that section of the community ordinarily responds is dangerous from the point of view of the success of the war effort itself.

Mr. Hicks's chapters on the economics of the capital levy are well worth reading. They are in fact the first serious analysis of this proposal since the time of the Colwyn report. While the general result of his treatment is to reduce somewhat the fears which have become traditional concerning the possibility of financing the collection of a tax of this sort, the impression remains that a very real problem exists. The collection of a heavy tax would be a delicate operation at best and this counts seriously against its use during periods of great stress when nicely conceived devices requiring precise and deliberate administration are not apt to receive the attention which they deserve.

As we have already pointed out, this book is an important contribution. Invaluable as a source of information concerning the fiscal policy of today, it fills a major loophole in the general literature of public finance.

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The Economics of American Defense. By Seymour E. Harris. (New York: Norton. 1941. Pp. 350. $2.75.)

This volume is an essay in applying "the principles of economics to the problems of war and defense. It is both a tract on public policy and an exercise in economic principles" (p. 7). As an exercise in economic principles it examines the structure and functioning of a war economy; as a tract on policy, it analyzes the American defense program in the light both of its legacy from the depressed thirties and of its presumptive bequest to the post-war world of the future. While these two broad fields of interest are obviously interdependent, it is convenient to examine them separately.

In real terms the economic impact of war involves the attempt to maximize specific goods and services at the disposal of the state. The means whereby this is done include the centralized control of foreign trade so as to reduce exports and increase imports, the stimulation of output, the discouragement of consumption, the cessation of capital formation or replacement in non-essential industries, and the diversion to the state of the resources so freed (p. 55). In monetary terms, the problem involves providing the state with the dollars necessary to purchase the goods and services it needs by methods involving a minimum of dislocation, hardship and, above all, competition with the state for scarce resources. The existence of this financial problem has, in the past, tended to obscure the "real" problem just stated. Professor Harris quite rightly reiterates that fundamentally the financial problem is a secondary one, thus recalling the dictum of *The Economist* that the first charge upon financial policy is to see to it that nothing is ever decided upon financial grounds. Given the basic task—increase in output and diversion of resources—how can it best be accomplished?

To the extent that idle resources are available, they can be mobilized simply by bidding for them. For this reason, the extent of unemployment should be regarded as an important determinant of governmental policy (p. 50). But the existence of bottlenecks, the pressure for speed "beyond the system's ability to adjust real resources" (p. 139), and the immobility and specificity of many resources soon exert an upward pressure upon prices which brings the issue of price control to the fore. To the extent that inflation facilitates the expansion of necessary output and increases the income of the treasury, the author is not hostile to its appearance (pp. 149-50), although he recognizes the need for its control. The reviewer would agree that, for political reasons at least, some degree of inflation is all but inevitable in a war economy; that scarcely needs pointing out in the United States of early 1942. But he feels that there are two points to which Professor Harris could have given greater consideration and which might modify the conclusions reached in the volume under review.

The first has to do with idle resources. It has become semi-fashionable to accept increases in the quantity and velocity of money as long as these are matched by corresponding increases in output. Professor Harris correctly calls attention to the fact that, in such a process, prices begin to rise considerably before the point of theoretical full employment has been reached. This suggests that such a rise in prices may reflect inability to supply (the

bottleneck issue), and at once raises the question whether further price increases have any stimulatory effect upon output. Given time, the situation may adjust itself; but under the conditions of modern war, time itself tends to be scarce, and cannot easily be spared until self-corrective forces have come into operation. The author mentions in one or two places (*e.g.*, p. 73) the desirability of utilizing price increases as incentives. This presupposes a greater degree of mobility, and rapid mobility, than may, in fact, obtain, except in the very early stages of rearmament which by now have been passed. It also raises questions about the use which the recipients of increased prices make of their enhanced incomes, which obviously should not be spent in competition with the government for scarce resources. Given the state's need for resources, use of the price incentive as a mechanical rabbit would seem to be advantageous only as long as the rabbit is never caught!

This brings us to the second and more fundamental point, which has to do with the consistency of the classical price function itself with an economic war effort. High prices, traditionally, serve the twofold purpose of stimulating output and restricting demand. Once resources really become scarce, not only are the possibilities of expanding production reduced, but high prices may actually have a deleterious effect upon output. There is some ground for believing that, during the last war, certain marginal producers of copper and coal, brought into production by the prices then prevailing, actually drew resources (especially labor and transportation facilities), away from more efficient plants which could have used them to better effect.

The same ineffectiveness exists on the demand side. No government at war will ever let its demand for resources be restricted by the height of the prices it has to pay. And, apart from foreign trade, there is no limit to the *monetary* resources which a state can bring into the market. Civilian demand may be restricted by mounting wartime prices, but only to the extent that increases in wages, profits and other incomes fail to keep abreast of the increases in commodity prices themselves.

Carried to its logical extreme, the principles of war economics can be reduced to three basic procedures: people must be assigned tasks on the basis of national need, irrespective of differential financial incentives (this, of course, is done in so far as induction into the armed forces is concerned); individual incomes should be paid on the basis of need, irrespective of the occupation of the recipient; and the distribution of goods and services should take place under the complete administrative control of the state, irrespective of the means of payment in the hands of consumers. No nation has yet carried matters quite as far as this, which means that, as far as policy is concerned, the problem is even more a political than an economic one. The decision as to how "totalitarian" a modern democracy must become in order to wage war effectively will, and should, be based not only on the state of the budget, the severity of bottlenecks and the interrelationships among prices, but also on the state of public opinion, the urgency of the crisis and the anticipated ease of the projected post-war transition back to peace.

With respect to American policy, Professor Harris has many sensible things to say. The fact that the United States has become a belligerent since

the book was written requires certain modifications in detail but few in principle.

The defense program itself is examined against the setting of recent economic history and in the light of its rôle as "arsenal of democracy" which the United States was playing at the time the book was written. Parts of the section on the international position of this country may need revision if recent hints that the belligerent democracies are contemplating the pooling of their financial and material resources are ever carried through.

Some of the most interesting portions of the book have to do with the financing of the war and the control of inflation. In principle, the author discerns three stages in the transition to a full-blown war economy. (His suggested time table [pp. 175-76] needs revision in view of the recently announced war budget of fifty-six billions.) The first stage, characterized by the progressive utilization of hitherto unemployed resources, is accompanied by deficit financing, moderate tax increases and increased tax yields; the second is marked by continued deficit financing, increased reliance on taxation and the commencement of borrowing out of genuine current savings; while the third stage finds increased reliance upon consumption taxes and a proportionate decrease in the deficit in relation to total expenditures, even though, in absolute terms, the deficit may continue to increase. Professor Harris, wisely, is not an alarmist about the size of the debt, pointing out (pp. 314-17) that the extent to which it may become burdensome depends on other factors, such as the size of the national income, to which primary consideration should be given.

The most serious criticism of the American defense program to be found in the book is directed against its lack of integration. The responsibility for tax policy, monetary policy and price policy is concentrated in different governmental agencies, and each policy has been formulated more or less independently of the others. Yet the close interrelationship between prices, money and finances, income, consumption and, again, prices should mean that taxation, price control and borrowing are jointly moulded into a dynamic, flexible, over-all economic policy. The concluding chapter of the book is devoted to just this topic: a criticism of the defense program up to the early fall of 1941, with suggestions for its improvement.

The book is not an easy one to read. It is characterized by an attention to detail that sometimes obscures the underlying significance of the details themselves. But it is a mature treatment of the economics of *this* war; and, for readers in this country, at any rate, not its least valuable feature is its integration of the theory of war economics with a discussion of the applications of that theory to contemporary American problems.

George P. Adams, Jr.

Cornell University

Paying for Defense. By ALBERT GAILORD HART and EDWARD D. ALLEN, with others. (Philadelphia: Blakiston. 1941. Pp. viii, 275. $2.50.)

The authors present an analysis of the problems of fiscal policy confronting the country in the national emergency. Upon the basis of this analysis, a positive program is constructed and its probable economic consequences indicated. Although the book was of course written before the United States became fully involved in war, its timeliness is not thereby seriously affected. The authors' estimates of revenue required must now be revised upward substantially; but what they have to say with regard to the objectives and methods of fiscal policy is as applicable now as before.

The primary objective of fiscal policy is of course to raise the necessary amount of revenue for defense needs. But the problems that are really troublesome are those involved in the choice of methods of raising the amount required. These are the problems with which the authors are mainly concerned. They list six objectives as of determining importance in the choice of methods of defense financing: (1) to maximize output; (2) to prevent an inflationary increase in the general level of prices; (3) to attain a distribution of burdens according to ability to pay; (4) to give everyone a sense of sharing in defense; (5) to release resources needed for defense; and (6) to promote, as far as possible, a healthy financial structure. By far the most stress is placed by the authors upon the second and third objectives.

A careful analysis is presented of the extent to which reliance may safely be put upon expansionary and non-expansionary borrowing, leading to a consideration of the volume and the methods of taxation which will be necessary and desirable to raise the required amount of revenue. Throughout the analysis, the emphasis is upon the necessity of achieving an equitable distribution of burdens and of preventing inflation.

In the program of fiscal policy which emerges from the analysis, principal reliance is placed upon the income tax, on the ground that the great increase in revenue required could most equitably be raised from this source. Hence it is proposed that a revenue of ten or twelve billion dollars should be raised by this tax during the year 1941-42, the increase in revenue from this source to be effected by lowering exemptions about one-half and by appropriate increases in rates. To make the tax more effective in checking inflation, it is recommended that the tax be collected during the year in which the income is earned, mainly through collection at source, and that the rate be varied, possibly as often as monthly, whenever variations in a cost of living index indicate either an inflationary or a deflationary tendency.

The general sales tax as a means of raising all or any part of the necessary additional revenue is rejected on the ground that our tax system is already regressive, that such a tax would tend to raise prices to consumers, thus providing a basis for demands for wage increases which would further the inflationary tendencies already operative, and that it would be relatively inefficient as a curb upon the spending of those in the high- and middle-income brackets. Excess profit taxes can probably be relied upon to raise some of the increased revenue required, but are regarded as relatively ineffective means in proportion to the amount needed. Excise taxes on goods whose

production conflicts with defense needs should be used to absorb the excess profits which otherwise might accrue to the producers of such commodities whose supplies have been restricted. The government should raise funds by borrowing only in so far as this can be done without prices rising. Every rise in the cost of living should therefore be accompanied, or promptly followed, by an increase in the income tax rate and a decrease in borrowing.

There will, I believe, be general agreement with the authors' stress upon the desirability of attaining a distribution of the burden of war finance in accordance with ability to pay, and upon the importance of having all taxpayers conscious of their contribution. Hence there also should be general agreement with the authors' preference for the income tax as that source of increased revenue upon which primary reliance should be placed.

Nor should any question be raised as to the desirability of levying sufficient taxation to block inflation. Here the authors' stress upon promptness of collection is also appropriate, and I find myself in agreement with them as to the importance of introducing collection at source to as great an extent as may be administratively feasible. I seriously question however the desirability, either from the administrative or from the economic point of view, of adopting the authors' proposal for frequent changes in the income tax rate. I am afraid that they underestimate the seriousness of the uncertainty, from the point of view of the taxpayer, that would result, and that they overestimate the feasibility of the use of simple statistical criteria as a basis for quick administrative action with regard to rate changes.

The authors also, in my opinion, have underestimated the possibilities of non-expansionary borrowing as a source of revenue in time of war. The heavy income tax which they propose, even though it be highly progressive, involves a very serious burden for the lower income groups. The even heavier tax which would now become necessary might involve an impossibly heavy burden for these groups. Even a highly progressive income tax will place more of the burden of financing the emergency upon the lower income classes than will a program of non-expansionary borrowing. It is true, as the authors point out (p. 82), that in the period of debt repayment spending power is likely to be transferred from the lower income groups to the higher income groups; but the authors fail to note that during the war period in which the debt is increasing, the use of non-expansionary borrowing in effect shifts some of the burden of war finance from the lower income groups to the higher income groups. With the burden of the war finance program as large as now appears likely, considerable reliance upon non-expansionary borrowing will not only be desirable but also probably unavoidable. Although the authors do devote some attention to the possibilities of compulsory loans, I am afraid they have failed to appreciate their possibilities to the full.

A minor criticism has reference to the argument in favor of excise taxes on commodities the production of which involves the use of resources required for defense purposes. The authors favor such taxes as a means of drawing off excess profits that otherwise might arise as a result of the restriction upon output. In effect, this proposal represents the use of excise taxes as a partial substitute for excess profits taxes, and to that extent the argument appears

sound; but it also represents the use of excise taxes as a means of rationing scarce goods. For if the excise tax on a given commodity is sufficiently high to draw off the whole of the increase in price which otherwise would result from the restriction in supply, then the tax must be sufficiently high to raise the price to that level at which the quantity demanded would be no more than equal to the limited amount of the commodity produced. This is a very inequitable method of rationing. Much more desirable would be the institution of price control and consumer rationing in the case of such commodities.

Readers of the book will appreciate the clarity and brevity of the authors' exposition. They will also admire their courageous, and on the whole, cautious and helpful use of available statistical materials.

B. F. Haley

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American State Debts By B. U. Ratchford. (Durham: Duke Univ. Press. 1941. Pp. xviii, 629. $5.00.)

An encyclopedic review of the past experience of our states in the exercise of their credit and an attempt to deduce therefrom helpful conclusions to guide them in their future borrowings are presented in *American State Debts*. Two-thirds of the book are devoted to a chronological account of the development of state borrowing from the colonial period to the present time; one-third deals with current problems and suggestions for their solution.

A sharp contrast is drawn between the debts incurred by the colonial governments and the states prior to 1800, which were comprised largely of paper money issues and debt certificates of irregular amounts, were largely "forced" in character and were incurred for the financing of wars and operating deficits, and the debts incurred after 1800, which took the form of regular negotiable bonds, were voluntary in nature and were used mainly to finance capital outlays.

The course of modern state borrowing, which really began in 1820, is divided into five periods. The first, running to 1840, was concerned with internal improvements, such as the construction of canals, turnpikes and railroads and with the organization of state banks, and is shown to have been a failure in the sense that it ended in widespread deficits, repudiations and financial losses to the states. The second period (1845-1860), similarly characterized by borrowing for internal improvements, is shown to have been a somewhat lesser failure, due to the greater care exercised by the officials in the selection of the projects to be financed by loans. The appraisal of the results of these borrowings follows the traditional financial pattern. No acknowledgment is made of the fact that these borrowings, even though they had resulted in losses to the treasury, might have conferred benefits on the community nonetheless.

The nature of the constitutional restrictions on state borrowing adopted toward the close of the two periods mentioned, under pressure from irate taxpayers, is described, but unfortunately the political and social implications

of these restrictions are not brought out as clearly as they might have been. No suggestion is advanced, for example, that the complete prohibition embodied in many of these restrictions on the contraction of any debt by either the legislature or even the electorate itself, for any purpose except the suppression of an insurrection, might have been unwise in that it closed the field of internal improvements to the state governments concerned completely for many years to come, leaving this field to be exploited solely by private corporations interested merely in earning profits. The abuses of state credit during this early period are evaluated too much in terms of present-day standards and not enough in terms of the general speculative setting which characterized all economic operations of this time.

The third period of development of state borrowing, associated with the financing of the Civil War, is deemed to have been partly unsuccessful, inasmuch as it was attended by inflation and, in the case of southern states at least, also repudiation. The fourth period, associated with the borrowings of the southern states, under gang rule, during the Reconstruction Era and similarly culminating in a series of defaults, is admitted by the author not to have been a "fair example of state borrowing."

Having reviewed these somewhat unsavory pages in the history of the American state debts, the author turns to the modern (fifth) period of their development, running from 1910 to 1940, and characterized by borrowings of a multi-purpose nature. The author is loath to admit the greater orderliness of state borrowing during this period and its basic difference from the unfortunate earlier experiences of the past. He takes the position that "it is still too early to formulate a final evaluation of this period, for most of the loans have yet to be repaid," thus indirectly suggesting the possibility of new state repudiations and defaults. He is willing to admit that the borrowings for highways and unemployment relief of this period have been socially worth while. But he believes that the loans for veterans' bonuses and the debts incurred by some western states for the establishment of systems of rural credit, after the collapse of farm prices in 1920-1921, have been unjustified, and he withholds judgment as to the worthwhileness of the loans contracted for other purposes. It is not clear to the reviewer wherein these other loans, which have comprised such projects as grade crossing elimination, bridges, state parks, additions to university buildings, hospitals, aid to public housing, harbor improvements, development of water supplies and reforestation, have been less desirable than borrowings for highways or unemployment relief.

State officials are taken to task for having neglected to use during the 1920's the callable type of bonds, which eventually would have saved their states considerable sums in interest payments since these bonds could have been refunded during the 1930's when interest rates dropped sharply. The fact is overlooked, however, that no one even among the experts advising the officials anticipated at the time the occurrence shortly of a sharp break in the interest rates or advocated the use of this type of bonds. The underwriters, who were an important part of the market, as the author admits, were adverse to its use. In the light of this, it is not clear how the officials

could have done otherwise than to adhere to the more traditional forms of borrowing. The experience of the 1930's should serve as a lesson for the future to all state and municipal officials and students of public finance regarding the advantages of introducing greater flexibility in the terms for which bonds are issued, but it certainly does not demonstrate the lack of foresight on the part of any particular group of individuals.

The section on current problems is opened with two case studies—those of Arkansas and Tennessee—which bring clearly to the fore the evil consequences of the failure by a state to plan carefully its borrowings and debt repayments. This is followed by a discussion of constitutional debt limitations, which, unfortunately, is too descriptive and not sufficiently critical in character. The author should have considered at this point the pros and cons of these limitations. Instead, he limited himself merely to a statistical comparison proving that constitutional restrictions restrict borrowing. Next comes a review of court interpretations of these limitations, and of the remedies left to bondholders to secure the enforcement of state loans; and a survey of some of the dangers involved in the unrestrained use by states of the "limited obligation" type of bonds, commonly known in the market as "revenue bonds." In a chapter devoted to the present geographic distribution of state debts, their concentration in the Northeast and Southwest is pointed out. This concentration is explained by the greater maturity of these regions, the poverty of the southern states, and the special prominence of "machine politics" in some of them.

The economic effects of state debts are treated in a chapter of only some seventeen pages. The discussion is rather academic, bears little relation to the rest of the book, and is confusing. The disadvantages of state borrowing are emphasized, while the advantages are slurred over. Borrowing is said to promote extravagance, inefficiency, graft, and irresponsibility among officials and overconfidence among citizens generally, and to create false booms. It tends, according to the author, to generate more borrowing and, by producing a heavy debt burden, to rob the state of its freedom of movement and ability to meet new emergencies. Eventually, by necessitating large repayments, it is said to exercise deflationary effects on business. The only real advantage seen in borrowing is that it makes possible the execution of activities on a large scale, but even with respect to this advantage, some limiting factors are suggested. No distinction is made between the economic effects of well-controlled borrowing and those of loose or excessive borrowing. Yet such a distinction would have been exceedingly serviceable in view of the recommendations made in the concluding portion of the book for the liberalization of the existing constitutional debt restrictions and a better planning by the states of their borrowing generally.

The plea for a liberalization of these debt restrictions is based mainly on the argument that they are being evaded through the issuance of revenue bonds. This plea would have been more convincing, and also more in accordance with the facts, had it been based upon a demonstration that state loans, when well planned, can confer immense advantages on a state; that such a planning of them is scarcely possible under the existing debt limitations, and

that there exists today in many of our states, as a result of a complete overhauling of their administrative machinery in recent years, the competence necessary for making effective such planning of the use of their credit.

The author recommends the conferring on the state legislature of a power to incur debt up to an amount equal to the annual current revenue of the state during the preceeding five years, with a power for the electorate to borrow, by a special referendum in each case, up to another such sum, and for the legislature, in the event of a proclaimed emergency, to borrow up to an additional 50 per cent of such amount. Thus, the aggregate debt limit applicable to normal times would amount to 200 per cent of such average current revenue, and for emergency times, to 250 per cent of it. In addition, debts of self-supporting enterprises would be made completely exempt from the debt limit. These are sensible proposals. Except for the fact that the limits are to be based on the average current revenue instead of on the average assessed valuations, they follow to a large extent the arrangments which have been in effect for many years in the case of municipal borrowing and which have operated there with reasonable satisfaction. The substitution of current revenue for assessed valuations, as a basis for the limitation of state debts, is logical inasmuch as state revenue (on which the ability to take care of the debts rests) is derived mostly from other sources than the property tax.

The final section of the book is replete with excellent recommendations. The states are urged to proceed slowly with the exercise of their credit. Many of the mistakes of the past are laid, quite rightly, to excessive haste in the authorization of the loans. Great emphasis is placed on the need for establishing capital outlay budgets and long-range financial planning, the financing from current revenue of at least a small portion of the cost of each outlay as a "down payment," the shortening of the terms of bonds to 25 years, the use of callable bonds, and the resort to state borrowing mainly during periods of depression.

These excellent recommendations, however, would have been more forceful had they been supported more fully with confirming opinions from the existing literature on the subject and references to the successful experimentation with some of the proposed devices by the more progressive states and municipalities in recent years. In general, the book suffers from an insufficient emphasis on the improvements introduced by the states in their borrowing practices in recent times and from a failure to indicate clearly that most of the abuses of their credit took place in the distant past. A reader who has been told that "it is not feasible to make any general statement as to whether the states have, on the whole, realized a net advantage from their borrowings" (p. 583) will find it difficult to follow the author's recommendations for a broad liberalization of the existing limitation of state debts. This statement, in the reviewer's judgment, has some semblance of correctness only if the unfortunate but really irrelevant experiences in state borrowing of one hundred years ago are indiscriminately lumped together with the more fortunate and relevant experiences in such borrowing of modern times.

But, despite these shortcomings, the book is to be commended as a piece of formidable research and first-rate scholarship. It is profusely documented

and will be of great value to persons interested in state bonds as an investment, officials concerned with the management of state debts, and students of public finance generally. It is written simply and clearly and should exercise a wholesome influence upon the future course of state borrowing. Its appearance at a time, when, because of a preoccupation with national defense, a lull in state borrowing is setting in, is especially appropriate. This temporary relaxation in state borrowing should afford an opportunity to the officials concerned to perfect the arrangements necessary for the exercise by their states of their credit more intelligently and effectively during the next period of efflorescence of internal improvements and state participation therein, which is likely to follow on the heels of the present defense period.

PAUL STUDENSKI

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Money and Banking; Short-Term Credit

Money in Motion; the Social Function of Banking. By A. C. HOLDEN. (New York: Harper. 1940. Pp. vii, 242. $2.50.)

The author, for twenty-five years an architect engaged in large-scale house construction, was impressed by the imperfections of long-term finance in the industry. He is convinced that dislocation, unemployment and depressions are largely, if not completely, due to the lack of a reorientation in the capital goods enterprise. The heart of the problem lies in striking a balance between production and consumption, between the cost of capital goods and the continual revenues derived from them. Long-term finance must learn to amortize long-term debts out of the utilities thrown off by the capital produced: witness such instructive instances as toll-bridge finance, installment buying and house rentals, where gradual payments measure the succession of utilities and alike provide the means of liquidating the long-term credit which gave birth to the durable agents.

Long-term finance is to borrow a page from the ideal conception of short-term credit extension. The commercial banker is not, or should not be, a mere merchant of money, ready to lend so long as "collateral" is provided. He is rather supposed to judge the supply and demand for the goods of the producer seeking accommodation; and a grant of bank credit is to symbolize that the production of the goods is justified by the market conditions. A similar conception ought to govern long-term credit for capital goods. To allow savings alone to determine the course of investment is to give hostages to fortune, for a disparity exists between the ebb and flow of savings and the fluctuating requirements of funds for capital formation with solvency and stability as the paramount objectives. The dislocations are compounded by the profit motive and high rates of interest as the arbiters of investment.

These criteria of allocation do not guarantee the equation between cost and utilities and above all the liquidation of the long-term credit involved.

What is needed is a Capital Reserve banking system, not unlike the Federal Reserve system in structure, embracing all the saving and investment institutions in the projected districts. It will be the function of the new institution to extend long-term credit, beyond the pool of savings if need be, at varying but low rates of interest. The master purpose will be the mitigation of depressions and the flattening and lengthening of the business cycle generally, by employing idle productive forces and by redirecting resources to new employments. The guide will be, not primarily profit and interest, but careful study and planning and an effort to match potential demand with new projects.

The significance of the book goes beyond the central thesis, which possesses flaws obvious to the student of economics. The author is a fine example of what college presidents have in mind when they talk of a liberal education. The book combines a pleasant style and a wide-ranging view with a tolerant attitude to social critics and reflections on social psychology. The nature of banking, of hoarding and saving, of installment buying, and of amortization are expounded with uncommon pedagogical skill. It is a good book for the business man because it opens new vistas, points to new responsibilities, and paints the function of business on a broad canvas and with perspective.

M. M. Bober

Lawrence College

The Security Affiliates of National Banks. By W. Nelson Peach. Johns Hopkins Univ. stud. in hist. and pol. sci., ser. lviii, no. 3. (Baltimore: Johns Hopkins Press. Pp. 187. $1.50.)

The 1941 addition to the Hopkins studies in historical and political science describes at some length financial developments of the twenties which led to a decline in importance of that aspect of banking which long has been regarded as strictly commercial. During that same decade investment banking was enjoying an era of unprecedented prosperity. As the effective demand for good commercial loans declined banks were forced to invést an increasingly large percentage of their funds in securities and to make loans in large volume secured by stocks and bonds in the process of distribution or being used currently as media for speculation by the banks' own customers. As these phases of their activities grew more important large metropolitan banks found it necessary to develop bond departments and to keep in close contact with all aspects of the securities business. The way was thus paved for banks to enter the investment banking business in spite of limited powers in this field. In an era so reckless and speculative it would seem strange indeed had the device of the security affiliate failed to make an appearance.

Using as his principal examples the security affiliates of the Chase and the National City banks, the author describes the abuses growing out of the affiliate system. Most of the resulting evils might have been eliminated by corrective and regulatory legislation; yet there would still remain the funda-

mental defect—mixing the commercial and investment phases of the banking business.

Since security affiliates have been abolished presumably permanently, the study is valuable principally to students of financial history. For a work so scholarly and so well documented it makes unusually interesting reading, for it throws considerable light on business and banking standards of an era now dead but never to be forgotten.

R. G. RODKEY

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International Trade, Finance and Economic Policy

Inter-American Solidarity. By WALTER H. C. LAVES, editor. Lectures on the Harris Foundation. (Chicago: Univ. of Chicago Press. 1941. Pp. xiii, 228. $1.50.)

This volume of seven assorted essays is typical of the repetitious parade of writings in the last two years which has served very little to advance realistic understanding of the economic issues of inter-American policy. Professor Upgren's presentation, in the section on "Raw Materials and Inter-American Solidarity," is substantially a reiteration of the thesis and facts given by him in collaboration with Professor Bidwell in an article in January 1941. Twenty of the fifty pages in the section on "Inter-American Trade and Financial Problems" are consumed in expounding a naïve theory of international investment. To this the remaining discussion appends some considerations respecting the Latin American position, leading to a series of "Conclusions," the tenor of which may be judged from numbers one, three, and nine: "1. As a natural and inevitable result of economic laws, whose workings are beyond her control, the United States is bound to export capital. . . . 3. Owing to reasons dictated by her own internal economy, and also to conditions prevailing today in international trade, the United States must inevitably export capital to Latin America. . . . 9. The past experience of British investment in the United States does not seem to confirm the fears that Latin America may become an economic rival of the United States." The three sections entitled "What Have the Americas in Common?" "Cultural Relations Among the American Countries," and "Pan Americanism and the World Order," are largely rhetorical, and the first of these is marred by several careless generalizations. Major Eliot expounds in the fashion of a formula his well-known ideas on modern warfare in his section on "The Strategy of Hemisphere Defense." Professor Frank Scott's contribution, "Canada and Hemispheric Solidarity," on the other hand, is thoughtful, substantial, and attentive to neglected questions.

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Business Finance; Insurance; Investments; Securities Markets

Investments. By George W. Dowrie and Douglas R. Fuller. New York: Wiley. 1941. Pp. viii, 631. $4.00.)

Many textbooks on investment have a serious defect. They either cover a wide range of material properly covered in other undergraduate courses or they give primarily a generalized financial survey of subjects. It is not enough for a course in investments merely to generalize on background material and financial analysis. The student should be taught how to administer an investment fund. This entails a knowledge of fundamental problems and forces in investment, the significance of investment policies and plans, and the evaluation and selection of specific securities. *Investments* by Dowrie and Fuller has accomplished this job for the student in a very satisfactory way.

Although the book covers a wide range of material on investment, the treatment of the subject, on the whole, is conservative, timely and effective. The book is well balanced, its organization is good and the presentation is clear. It is quite evident that the authors have a good background in economics and practical investment plus the ability to present their information in a compact, satisfactory text.

The authors state that the book is designed "to present principles applicable to all forms of investment and to introduce the reader to the major problems which each of the more important special aspects of the subject presents." This purpose is accomplished to a substantial degree. The book is not primarily a treatise on the technique of investment. More largely it emphasizes and analyzes the fundamental forces creating the hazards of investment, the principles and criteria determining investment values, and the need for an investment program.

The book begins with an introductory setting of three chapters wherein the nature of investment is presented, an historical perspective of the problem is given, and the supply of and demand for capital is analyzed. Part II, "The Mechanism of Investment," comprises four chapters dealing with bonds, equities, investment banking, and the security markets. There is nothing new in these chapters either as to subject matter, organization, or method of treatment. This is important material, however, for students beginning the study of investment. It is also very helpful to general readers unfamiliar with such subjects. In Part III, "Investment Policy," four chapters are devoted to the risks of investment, primarily those arising through external influences such as cyclical changes, changes in purchasing power, and changes in money rates. Five chapters are given over to investment policy, individual and institutional. One chapter is on governmental protection and regulation, in which also is discussed "the vital part taxation may play in the determination of an investment program." There is important material in this section which will help the student or investor to understand the need for an investment program. But before a sound investment plan can be formulated it is essential to have an understanding of the various forces which may affect investment

policies. The survey of institutional investors is short but it gives a good idea of their nature, fundamental investment problems and how they have been met.

The fourteen chapters of Part IV on "Investment Analysis" take up nearly half the book. One chapter is included on sources of information. Financial statements are explained in two chapters. The chapters on selection of investments—on which the major emphasis of this division is placed—include general considerations, corporation bonds, civil obligations, real estate and real estate obligations, and common stocks. Here investment analysis is employed for the purpose of providing the investor with a sound basis for determining investment values. There is presented the fundamental elements in the appraisal of each type of fixed income obligation. The methods of analysis are clarified by concrete illustrations in which actual companies are examined. Common stock selection is predicated upon the investment analysis approach. Specific factors are examined and individual companies are studied to illustrate the process of selection.

Part V is a single chapter of thirteen pages on investment advice and management. Here is a concise and fair discussion of professional investment management, and the problem of managing one's own funds.

Certain aspects of investment are omitted or receive inadequate treatment. Inflation is treated incidentally in the chapter on the purchasing power risk. War as a factor in investment is only mentioned. A chapter is given to the stock exchange, but security speculation is omitted. There is no mention of the mathematics of investment. There are very few footnotes and no bibliography, questions, or problems.

While the book has its weak spots, it has so many good points that we may consider it a real contribution as a text for those working in investment.

N. GILBERT RIDDLE

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The Regulation of Stock Exchange Members. By RAYMOND VERNON. (New York: Columbia Univ. Press. 1941. Pp. xvi, 152. $2.00.)

The scope of this concise treatment of the regulations of stock exchange members is limited to the various aspects of broker-dealer-specialist transactions. Despite this limitation the area remains large, and it is surprising to find the material covered so adequately in a small monograph. The author has done an excellent job of balancing the discussion of the many topics covered and of stating the essential points clearly.

This is not another treatise on the economics of stock exchanges; the subject enters only incidentally into the discussion. Instead, the book might be described as an exploration of the logic of exchange member regulation. The principal emphasis is on the aims of regulation, and on the confusion generated by certain rules which work at cross purposes.

The first and fifth chapters are very brief. The first states the "aims" of regulation but not in any detail. The author has merely listed certain claims for and against exchange trading, and indicated some of the difficulties of

regulating transactions involving member interest and the public interest. The fifth and last chapter contains general discussion of such phenomena as "fair" markets and "orderly" markets, and is based on S.E.C. and Senate reports and hearings.

The main part of the work, chapters 2-4, is devoted to the following broad topics: (1) regulation of lending and borrowing activities of brokers; (2) regulation of broker and dealer activities of the specialists; and (3) regulation of members' transactions as dealers, other than as specialists. In each of these sections the method followed and the type of material presented are essentially the same. The chapter devoted to regulations of lending and borrowing activities of brokers may be used to illustrate the general plan of this work.

Some attention is first given to the historical development of restrictions on lending and borrowing activities of brokers beginning with the scanty material available for the period of crisis in 1907. The Hughes investigation, the work of the Pujo Committee, the developments of the twenties and early thirties, are briefly discussed as they relate to member borrowing and lending. The later regulations, imposed by the Federal Reserve Board and the New York Stock Exchange, are outlined and analyzed in much more detail and some of the reasons, real or merely apparent, are advanced for the various rules which became effective in the period 1934-40.

The second part of this section, outlining some of the quantitative materials available regarding member borrowing and lending, provides little new information. The final part of this section is a summary and appraisal which does contain some interesting points. The summary is of particular interest because the author has clearly indicated various conflicting aims which are embodied in the regulations, and he has marked out definite aspects of member borrowing and lending activities about which very little is known.

The other two main sections follow much the same pattern.

This volume does not present much that is new but it does bring together in clear, concise language the general framework of exchange member regulations and supplements what has been done in this field with well-selected materials drawn from many sources. The principal contribution is the emphasis on the conflicting aims of individual rules governing exchange members, on the need for clearly formulated policies, and on the need for much more factual information than has yet been secured.

FRANK P. SMITH

University of Rochester

Assekuranz-Jahrbuch. By S. J. LENGYEL, editor. 2 vols. (Basel: Verlag für Recht und Gesellschaft. 1941. Pp. 642; 540.)

This insurance yearbook, founded in the year 1880 by A. Ehrenzweig, is the oldest annual on this subject. Moreover, it is the most international publication of its kind, since it shows the statistical development in twenty different countries and contains besides an international bibliography of

private insurance in general, embracing all branches of insurance in twenty-three countries. Most of the space is devoted to new legislation, the second volume treating exclusively legislation in the United States during 1939 and 1940. It would be a great loss to insurance theory and practice all over the world if the sixtieth edition of the yearbook should be the last one, as seems possible. The present editor, formerly of Vienna, had to leave Europe and is now in Australia. Instead of being published in Austria as has been the case for the last fifty-nine years, it was necessary to publish this edition in Switzerland. Probably because of the characteristic difficulties of scientific publications within formerly independent European countries, the traditional first part of the yearbook containing scientific papers on insurance economics and administration has almost vanished. Should not America see that such an international publication survives?

ALFRED MANES

Indiana University

Public Control of Business; Public Administration; National Defense and War

Government Control of Business. By HAROLD D. KOONTZ. (Boston: Houghton Mifflin. 1941. Pp. xi, 937. $4.50.)

Government and the American Economy. By MERLE FAINSOD and LINCOLN GORDON. (New York: Norton. 1941. Pp. xvii, 863. $3.90.)

These two volumes represent substantial new additions to the growing list of texts for use in survey courses in "government and business." Although similar in general scope they differ considerably in approach, level of exposition, and emphasis. On the whole Professor Koontz's book is more conventional in approach, as is suggested by the title itself. In a brief introductory consideration of the problem of public control, he sketches the ebb and flow of governmental participation in economic life from early times, and describes the characteristic economic and legal institutions that constitute the setting of the contemporary problem of public control. The remaining seven parts of the book deal with government intervention in various segments of the economy, including transportation, public utilities, "private" business and trade, financial and exchange institutions, extractive industries, and labor. Consideration is given also to the promotional activities of government, and to the rôle of governmental enterprise. The book thus covers, in brief, the substance of a half-dozen upper class courses in sequence; the thread linking the several parts is that they each manifest, in one way or another, the common phenomenon of "government control."

In *Government and the American Economy* Professor Fainsod and Mr. Gordon have undertaken to survey an equally broad terrain. They, however, have organized their material in terms of the varying character, extent, and objectives of governmental intervention in the economic life of the community,

rather than in terms of a classification of "industries." They begin with an introductory description of the structure of the modern economy, and of the "political" organization of different economic groups, including business, labor and agriculture, emphasizing the rôle of these pressure groups in the functioning of modern government. The three remaining parts of the book deal, in turn, with government as a promoter of particular economic interests, government as regulator in the public interest, and public enterprise and conservation. Part III, dealing with government as regulator, covers substantially the same groupings of industries as are treated by Professor Koontz.

In this connection certain interesting differences in emphasis are apparent. Professor Koontz, for example, devotes nearly a third of his book (three hundred pages) to transportation and public utilities, business traditionally "affected with a public interest," and approximately half as much space to regulation to enforce competition and the control of specific industries such as coal and oil. Professor Fainsod and Mr. Gordon, on the other hand, place much less emphasis on transportation and public service industries, and much more on antitrust and trade practice legislation, the activities of trade associations, and our experience with N.R.A.

Especially interesting is the difference in emphasis accorded to the N.R.A. and subsequent experience. To Professor Koontz the N.R.A. was an "interesting, but happily short, experiment with the use of the code device for widespread business regulation," to be disposed of in two scant pages as an incident to the discussion of the control of competitive practices. Professor Fainsod and Mr. Gordon have treated it at very considerable length as a case study in industrial self-regulation under the aegis of government, and as such of permanent significance, quite apart from the situation that called it into being. Here, as elsewhere, they have brought into the foreground the grave problems of political organization and administration involved in any large-scale attempt at governmental control of or participation in the conduct of business.

Both volumes end with chapters that attempt an appraisal of the rising tide of governmental intervention in economic life, and of the possible alternatives of public policy. Professor Fainsod and Mr. Gordon are diverted, however, in the midst of their summing up, to a consideration of the impact of war upon the economy, and to a description of the measures for effecting the transition from peace to war. The treatment of the problem is brief, to say the least, in comparison with its contemporary significance, and gives the appearance of a hasty addition, not well integrated with the remainder of the book, or even with the general discussion of public policy, with which it is conjoined.

Both volumes have drawn heavily on the wealth of material made available in recent years through the publications of the T.N.E.C., the National Resources Committee, and other governmental and private sources. Both reflect, in considerable measure, the influence of the past decade of development in economic theory as applied to market phenomena and business behavior, although the employment of these tools has not been as thorough-

going as might be desired. Both stress the institutional developments of the past three-quarters of a century that have led to and conditioned the extension of governmental participation in economic life. Professor Fainsod and Mr. Gordon, however, have emphasized in greater measure the gradually increasing importance of newer objectives of public policy—the promotion of business recovery and stability, the attainment of a higher level of employment and national income—that have come to supplement the maintenance of equity as a basis for governmental intervention. They nevertheless have not undertaken to include in their discussion those monetary and fiscal measures by which also the government may seek to achieve these objectives. The relation of public works and other relief measures to economic recovery and stabilization is suggested, but the underlying theory is not expounded or subjected to critical analysis. Thus *Government and the American Economy* remains a partial treatment of the interrelations of government and the functioning economy; it could, indeed, scarcely be otherwise within the limits of a practicable book.

To the teacher in search of a textbook each of these volumes will appear to have points of strength and weakness. Professor Fainsod and Mr. Gordon have assumed the student to have a quite considerable background in recent American economic history and a familiarity with economic, political, and legal concepts and processes. They have almost completely eschewed definitions of terms except as these may be suggested by the context. This assumption that the reader will appreciate the full force of an allusion to industrial unionism, the injunctive process, or the English common law undoubtedly contributes to an easy and perhaps flattering style, inasmuch as there is no appearance of writing down to the level of the uninitiated. Nevertheless it may make many passages appear cryptic to many students, and doubtless will put on the teacher a considerable burden of supplementary exposition. And one need scarcely be a pedant to wince at the recurring use of nouns in such Teutonic adjectival combinations as "pre-World War I British industry." Professor Koontz, by contrast, assumes relatively little prior equipment on the part of the student, and endeavors to supply the relevant background himself. Although his book as a consequence seems more "textbookish," his careful, clear and systematic treatment is far from devoid of reader interest.

These volumes, formidable in length as they are, nevertheless still involve in considerable measure the inevitable sacrifice of depth of analysis in the attempt to cover a broad range in a single text. Much space must necessarily be devoted to the enormous mass of legislation and machinery through which governmental control is articulated, and little room remains for the detailed presentation or critical analysis of specific problems. In Professor Koontz's volume, for example, the patent question is disposed of in a half-dozen scattered pages, as are also the economic and legal aspects of resale price maintenance; the open price system and the basing point system are accorded four pages each. Substantially similar in extent is the coverage of these representative issues in Professor Fainsod's and Mr. Gordon's volume.

Despite the inherent difficulties of any such attempt at broad coverage this reviewer has been impressed by the very considerable amount of detail

that the authors of both volumes have been able to include in their panoramas without sacrificing general perspective or becoming mere cataloguers of facts. It is difficult to see how much more could have been accomplished within the limits of available space.

A. M. McIsaac

Princeton University

Industrial Organization; Business Methods and Policies

Top-Management Organization and Control. A Research Study of the Management Policies and Practices of Thirty-one Leading Industrial Corporations. By Paul E. Holden, Lounsbury S. Fish and Hubert L. Smith. Conducted under the auspices of the Graduate School of Business, Stanford University. (Stanford University: Stanford Univ. Press. 1941. Pp. xvii, 239. $4.00.)

One cannot appraise this book without giving careful consideration, at the outset, to the special circumstances under which it was written. Essentially, it is a report upon a comprehensive and ambitious research project on the business practices of modern American corporations. The value and the limitations of this study are strictly circumscribed by the special plan under which it was developed. Its findings will be of interest to those concerned with the technical structure of American management, but will be of limited value to those persons who desire to know how business men reach decisions on those vital issues concerning labor, the federal government, the public, and industry generally.

In the Preface, the Dean of the Business School of Stanford University states that "after several months of study and discussion, during which time leading executives joined with members of the Business School faculty about the conference table, a broad program was formulated and the project undertaken." It was conceived that this would not be an "academic" study, but would realistically show ". . . how policies are formed, how authority is delegated, how control is effected, how departmental or divisional points of view are harmonized, how results are measured, how extravagant practices are corrected, and how waste is eliminated."

A group of thirty-one "nationally known well-recognized industrial companies were chosen" for study and some of the companies assisted in the financing of the project. Data sheets were designed to gather information which would give "comprehensiveness and comparability." The field work for the collection of the data required over seven months and an additional six months were required to "analyze and coördinate the vast amount of material obtained." The report relates to American big business. The thirty-one corporations studied had assets of over 8 billion dollars, or an average of about 260 million dollars per company. They were largely industrial, banks, merchandising organizations, public utilities, and railroads being omitted.

The research project was carried on under at least three important limitations, which are stated in the Preface, and a clear recognition of them is indispensable to an understanding of the book. These limitations—the anonymity of the corporations and their practices, the absence of any discussion of the factor of personality, and the indisposition to evaluate or criticize—obviously place a great barrier to a realistic approach of the manner in which American industry is directed.

It was further assumed that the basic facts relating to American management policies and practices could be ascertained exclusively from the data gathered by the research project. This apparently is the reason why one finds no reference at any point, either in the text itself or in the appendix, to any of the mass of literature relative to this general subject which has accumulated in the government and in schools of business and social science.

"Top-management" is variously defined in the book. It means, essentially, the central management of modern American corporations through the board of directors, the officers who actively direct the corporation, and finally the departmental heads of the various branches who carry out its work on a day-to-day basis.

A specific illustration of the inherent difficulties under which the report was made is found in a consideration of the function of the board of directors. On page 17 we find the following statement: "The point of view of the board of directors must . . . be identical with that of the stockholders. . . . In fact the fundamental concepts of the first zone or level of management (the directors) is management for the benefit of those who own the business." This is a clear statement of the classical, and normally accepted, obligation of directors to stockholders. But the authors go on to point out that "this point of view is not always easily maintained. Many directors are also full-time executives whose interests as members of management may momentarily be at variance with those of the stockholders."

Following the identification of this general problem, it might be expected that some conclusion would be drawn from the experience of the corporations in question. No opinion whatever is expressed on this vital point. In fact, the remainder of the material regarding the board of directors is primarily devoted to a discussion of the mechanics of its organization and the board's relations with the managing officers in the corporations. Nowhere is there even a hint that the present organization of, and control exercised by, the board of directors of any one of the thirty-one corporations is ever at variance with the interest of stockholders.

The second zone of "top-management," as outlined in the volume, is that of the "general management or administrative function." This general management is in the hands of those persons, largely company officers such as vice presidents, who exercise ". . . an active and continuous function involving the initiation, formulation, coördination, and development of . . . proposals and results." Here one finds considerable material which would prove helpful to those interested in the technique of structure and organization.

It is at this level of management that the major policies of the corporation are outlined, and the major decisions regarding them put into effect. However,

because of the inherent limitations of the project outlined above, one again notes the lack of what might be termed a realistic approach to the problem. Management is made up of men, acting alone or in unison. Their business decisions are not reached in a business vacuum but under concrete and specific circumstances. One of the stated objectives of the book is to ascertain "how policies are formed." This objective has not been reached.

The third zone of "top-management" is seen as the "divisional—or departmental-management function." The definition of the function and responsibilities of the managers in this third zone, with the description of their organization and control, is one of the best features of the report, primarily because it is in this zone that the day-to-day business work is done. Here are carried out the policies which have already been established either by general management or by the board of directors. The limitations inherent in the project, as discussed above, are least confining at this juncture.

Following its description of the structure of the three zones of management, the book discusses at considerable length the types of controls exercised by "top-management" over the various functions of the corporations, for example, the practices followed in the control over costs and capital expenditures. In addition to discussion of these familiar techniques of control, there are sections of special interest devoted to the controls over organization, research, line of products, and other aspects of the operations of modern corporations, including an interesting account of "Control Over Demands Upon Executive Time" (Part C, Section 16).

The report fails to consider adequately four of the most vital problems confronting American business: its relations with labor, with the industry in which it operates, with the government, and with the public generally. One is surprised to find, for example, that in the Index there is no reference at any point to labor or to unionization. On pages 130-141 there is a section (Part C, Section 6), entitled "Control Over Wages," with a detailed discussion of wage policies, job evaluation procedure, and control procedure as evolved by management. But at no point here is there any reference to the rôle which organized labor now plays in the establishment of wages. It is interesting to speculate on what the treatment of the wage problem would have been if the Business School had made this part of the study in coöperation with organized labor, rather than with business. The absence of any realistic treatment of the problem of wages is emphasized by the fact that there is no discussion of the relation of the corporation to organized labor. This is surprising in view of the fact that the locale of the corporations studied is largely the Pacific Coast which has been, for the last ten or twenty years, the focal point of a bitter feud between labor and capital.

The discussion of "Control Over External Relations," (Part C, Section 14), leaves the reader in somewhat of a quandary. The authors admit that "it is unfortunate that business in general has delayed so long the public presentation of its case, collectively and individually." Following this, two pages are devoted to the public relations activities of the thirty-one corporations. Most of the discussion is taken up by the quoted statement of one company regarding its attitude toward this important work. From this scanty material, the

reader is, of course, at a loss to know what, if anything, these corporations have done in this field.

In the same section there is a discussion, fourteen lines in length, of the relationship existing between the corporations and the respective industries in which they operate. It is stated that "most of the companies give positive endorsement to the collective study of common problems." In view of the importance today of the relationship of a company to its industry through trade associations, and the associated legal and legislative problems, this material is extremely skimpy.

As to the material regarding the relations of the thirty-one corporations to the federal government, it is to be noted that the study was begun in 1939, five years after the advent of the New Deal with its innumerable plans and programs for an extension of the power of government over private enterprise. Certainly these corporations must have taken action in this field meriting a consideration greater than the half page it is given.

These are some of the reasons why a student twenty years from now would find this volume of little assistance in illuminating the general picture of how American business actually operated in 1940.

Top-Management Organization and Control is a research study in the right direction. Stockholders, corporate officials, salaried employees, wage earners, the government, and the public all want more information from reliable sources about modern corporate enterprise. A beginning has been made in this study, but the emphasis has been given almost entirely to the mechanics of the management's structure. The result is a tentative blueprint of corporate organization and control.

The next step, and a much more difficult one, is to obtain the data, as far as possible, on how the structure actually functions. This material, in the opinion of the reviewer, can best be gathered by inquiring into how actual business decisions are made with respect to certain concrete and specific problems. A study along this line would feature the action of men, rather than the static outlines of corporate organization.

JOHN E. DALTON

New York

Mining; Manufacturing; Construction

The Automobile Industry. By E. D. KENNEDY. (New York: Reynal and Hitchcock. 1941. Pp. 333. $3.50.)

This popular account of the "coming of age of capitalism's favorite child" is by no means a scientific study in economic history or industrial organization; it sets out simply to sketch, in an interesting way, the beginnings of the motor industry and its progressive expansion to a predominant position in American economic and social life. The author has given a year-by-year, almost blow-by-blow account of the fortunes of the automobile producers, including many whose names come back like ghosts out of the past.

Although he has not essayed a scientific study of the industry, Mr. Kennedy nevertheless finds in its record, as compared with those of many other major industries, a striking contrast. During the past two decades, especially, there has been an increasing concentration in the industry, brought about, not through the merger of rival concerns, but simply through the failure and disappearance of independent manufacturers, many of which had, during the 1920's, been substantial and profitable enterprises. Thus, paradoxically, the automobile industry is today more completely dominated by the big three than is the steel industry by its major producers, yet the major motor producers have reached their position of dominance not through combination, but through progressive expansion of their sales relative to the entire volume. The end result is nevertheless the same: a situation in which price competition does not appeal to any of the major rivals as "good business," and in which the independents continue an ever more precarious existence.

Mr. Kennedy has been content to pose his paradox for the reader, without attempting an economic interpretation of the industrial history he has recounted. Indeed he points to the rise of Chrysler, under circumstances that seemed to spell inevitable failure, as an indication that the outcome was not a mere product of impersonal forces. But even though one assumes that the mortality of the independents was due to their failure to "have what it takes" in a period when the demand for automobiles as a whole was no longer rapidly expanding, one cannot help wishing that Mr. Kennedy had gone further in supplying economic answers to the question that he raises. Nor does the reader who is inclined to speculate find the book a very helpful source of information with which to proceed. For although it is studded with figures as to annual sales and profits, the data presented are not systematically organized or sufficiently inclusive to support further analysis without recourse to other sources of information.

A. M. McIsaac

Princeton University

The Iron and Steel Industry in South Africa. By C. S. Richards. (Johannesburg: Witwatersrand Univ. Press. London: Lund Humphries. 1940. Pp. lxi, 471. 25*s*.)

This work is an appraisement of the operations and pricing policies of the South African Iron and Steel Corporation during the period of five years after it began production in 1934. Incidentally it outlines the history of the whole industry in South Africa and describes the foreign sources of supply. "Iscor," the popular name of the Corporation, is a quasi-public enterprise which was organized by the Union government and financed to the extent of 90 per cent of its capital. During the period studied it controlled 92 per cent of the capacity for the production of basic iron and steel in South Africa. This was barely one-third of the domestic consumption, the remainder having to be imported mostly from Europe, with small amounts from the United States and occasionally from Australia. (This was the situation until September, 1939. What has happened since is an unwritten chapter.) Before 1934 some

97 per cent of the consumption of basic iron and steel in South Africa was imported, a considerable amount coming in the form of scrap used by domestic fabricators. Earlier experiments had indicated that ferrous products of standard quality could be produced in South Africa at a mill cost as low as that of the foreign mills, and thus would require no tariff protection. South Africa was an excellent nursery for the "infant industry."

The real owner of Iscor, the Union government, determines the tariff rates on iron and steel, and makes and administers the dumping laws; owning the railroads, it fixes the freight rates on iron and steel both inward and outward, and, strange to say, it aided Iscor to enter the European cartel although this raised the price of steel to South African consumers to the benefit of foreign producers. It has used all these means to make Iscor profitable, and it has been.

Iscor follows a basing point plan of a peculiar sort, the base price being the cost of foreign steel laid down at the ports of entry. As Pretoria, where the mills are located, is a non-basing point hundreds of miles from the coast, phantom freight is paid on most of the shipments. The largest monopoly-taxed buyer is the gold mining industry, which is located near Pretoria. Doubtless next in order is agriculture. These two are almost the only exporting industries.

The author is professor of economics in the University of the Witwatersrand and is one of the editors of the *South African Journal of Economics*. His work is a model of scholarly research into the problems of a very complicated situation. South Africa has been made a veritable laboratory of economic experimentation, and offers lessons of international import to students of infant industries, protective tariffs, international cartels, state socialism, and national planning. Even the discouraged liberal will be cheered by finding some awful object lessons which he may use to point a lesson.

FRANK ALBERT FETTER

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Labor and Industrial Relations

Union Policies and Industrial Management. By SUMNER H. SLICHTER. (Washington: Brookings Institution. 1941. Pp. xiv, 597. $3.50.)

For many years there has been a shadow-land in the precise knowledge of certain aspects of labor relations. A good deal of hearsay, a few competent but fragmentary studies, and occasional rule-of-thumb observation has been the limit of the intellectual property of most labor economists in so far as the shadow-land is concerned. This misty territory has been that which encompassed the policies and plans whereby unions have sought to influence the entrance of new artisans to a trade, to control the system of apprenticeship, to influence the hiring and lay-off policies of employers, and to meet the problems of technological unemployment. The principal reason for the comparative dearth of systematic knowledge of these subjects has probably been

the enormous variety of policies involved, the deviations in practice from established rules, and the obvious difficulty of canvassing the facts of thousands of local situations. A single and comprehensive treatise on the subject had seemed virtually impossible. In the book under review, however, Professor Slichter has accomplished this most difficult task. He has accumulated and used an incredible amount of factual information, and to this he has applied a sound knowledge of economic theory and a generous portion of plain human wisdom. The results are, of course, not perfection; but they are little short of astounding. I have no hestitation in asserting that this book became the classic treatise in its field on the day of publication.

Professor Slichter has made good use of those fragmentary studies which preceded him, and to these he has added the results of a vast amount of original investigation. In his chapters on technological change, he has carried on and developed the justly famous pioneering of George E. Barnett. He has classified and organized a considerable volume of information on union attitudes toward labor-saving machinery, has analyzed these attitudes from a stable basis of economic theory, and has incidentally included a good portion of interesting labor history. Equally well, he has developed the early work of D. A. McCabe on piecework and timework, adding to those good but rudimentary studies an extensive array of up-to-date material. But in his chapters on union control of hiring and lay-offs, and on the control of cost differentials between union and non-union establishments, Professor Slichter has earned pioneering fame for himself. A careful collection of facts in research areas which have been greatly neglected, coupled with a splendid demonstration of the author's marked ability to classify facts, comprise a distinguished contribution to the knowledge of labor economics.

Unfortunately, the standard of quality varies from place to place in the book. For example, the chapters mentioned in the preceding paragraph maintain a high level, excepting for a few sections which appear not to be fully digested nor clearly expressed, and which therefore strike the reader with a mild shock. The discussion of union-controlled hiring halls, as an illustration, begins with the implication that such halls are "almost certain" to lead to discrimination, favoritism, and internal politics. A page is devoted to the longshoremen's hiring halls on the West Coast, but no reference is made to the elaborate "plug-board" device whereby the union has sought to eliminate all possibility of favoritism and politics. Since these West Coast halls are admittedly of sufficient importance to warrant brief description in his book, it is reasonable to expect that they would have been mentioned as an exception to the general rule of favoritism which the author has enunciated.

Further, there is given no hint of the favoritism and politics which prevailed before the union hiring hall was established. As a matter of fact, the union's insistence upon controlling the hall (at the time of the 1934 strike) was the product of its determination to eliminate the graft and favoritism which had dominated the waterfront for a dozen years. The old "shape-up" system was intolerably corrupt and the longshoremen themselves were driven by necessity to abolish it. The seamen, likewise, sought union control of the hiring hall in order to eliminate the petty graft and incompetent favoritism

of the landlubber staff of the employers' hiring hall. I doubt if any union-controlled hiring hall has exceeded, in its massing of small-scale graft and politics, that notorious agency, which I described in this *Review* in June of 1935. Dr. Slichter's condemnation of union hiring halls is not adequate unless they are shown to be worse than reasonable alternatives. And this he has not shown. He mentions with approval the growth of government operated employment services, but does not discuss their potentialities, nor offer them as a general substitute. I still agree with Professor Slichter, however, in his broad conclusions on this subject, including his preference for public employment offices. Further, I cannot really contest any single statement in his discussion. Rather do I feel that misleading implications have crept into the text, apparently as a result of incomplete research or hasty analysis. The weight of this criticism, of course, is greatly mitigated when the vast scope of the work is recalled. No one can expect him to include everything.

The last third of the book is devoted to the major experiences with union-management coöperation, and includes studies of the women's garment industry in Cleveland, and the development of such coöperation on the railroads, by the Amalgamated Clothing Workers, and in the Naumkeag Steam Cotton Company. In all of these chapters there is evidence of a vast amount of original and competent research. In the chapters on the railroads, however, it is noticeable that no reference is made to the substantial work of Louis A. Wood. This is unfortunate, since Professor Wood is entitled to credit for his ground-breaking in this field, a piece of work fully as important as that of R. C. Nyman on the Naumkeag experiment, work which does receive due credit from Professor Slichter.

In drawing conclusions from his description of the four examples of union-management coöperation, the author presents an unexcelled analysis of the reasons why the device has spread so slowly, pointing out, among other reasons, the significant extent to which employers have been responsible for this lethargy. But then, apparently forgetting this opposition by employers which he has just expounded, he expresses his belief that union-management coöperation will spread more rapidly in the future because of the changed needs and attitudes of the unions. I agree with Dr. Slichter that the attitudes of unions are undergoing great changes, but I am not so optimistic as he in his apparent assumption that employer opposition is also vanishing. There are certain outstanding illustrations of business men who are really eager to deal in a business way with unions, as exemplified by Mr. William Batt, of SKF industries, in the Town Meeting of the Air last November. But I feel sure that a large proportion of America's business men are yet unconvinced, and will probably remain so for some time.

There is a further point which should be mentioned. Professor Slichter assumes that union-management coöperation will be the normal mode of organizational procedure when employer-employee relations "come of age" —when a fully developed "system of industrial jurisprudence" has emerged. The doctrine that such coöperation is an attempt at "class collaboration" and is therefore impossible (except in isolated instances) is of course a part of the Communist credo. But this doctrine is not necessarily invalid simply

because of its political affiliations. I have not read any exhaustive study of this doctrine, nor have I attempted to think it through myself. Therefore I am not prepared to state categorically that union-management coöperation is *the* form of the future, or that, on the other hand, it is the will-o'-the-wisp of hopeful but futile liberalism. Perhaps because I am disappointed that Professor Slichter did not think out this problem for me, I regret that he assumed the first alternative. But I do think that the second alternative should at least have been mentioned as a possibility. Throughout his chapters on the subject, there are indications of his awareness of the question, and frequently there are data which bear upon it. But the problem itself receives no special attention.

An important contribution made by the book is the result of the attention which it gives to the unwritten rules and traditions of certain trades and industries. The ignorance on the part of an arbitrator of such occupational peculiarities has resulted in the failure of many arbitrations. And the ignorance on the part of union men of the necessity for altering obsolete traditions has caused the decline, and sometimes the dissolution, of many unions. Professor Slichter has given us valuable information on many such traditions, information of great value to arbitrators, mediators, employers, and union men as well as to academic students. For this reason, among others, the book should be widely read and frequently used. During the trying times through which the United States is struggling, the book is pertinent and of immediate practical value, and should not be overlooked by anyone concerned with labor relations. When democracy itself is in peril, it is necessary to develop and strengthen the procedures of industrial democracy. This book, besides being a treatise on technical matters, is an inspiring essay on the potentialities of democracy.

The entire volume is excellently organized, so that, in addition to being good reading, it is readily usable for reference. The format is standard Brookings, the typography excellent. A good index, coupled with a detailed Table of Contents, provides ready access to the materials within the book. Dr. Edwin G. Nourse introduces the volume with a brief but graceful and relevant Preface.

WILLIAM S. HOPKINS

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Labor Cases and Materials; Readings on the Relation of Government to Labor. By CARL RAUSHENBUSH and EMANUEL STEIN, editors. (New York: Crofts. 1941. Pp. xvi, 674. $4.00.)

The Development of Labor Relations Law. By WAYNE L. MCNAUGHTON. (Washington: American Council on Public Affairs. 1941. Pp. 197. $3.00, cloth; $2.50, paper.)

Labor Cases and Materials will join Commons and Andrews as a standard reference work for the student of labor law. The book presents in an orderly classification the major pieces of labor legislation of the federal government and the states, together with the related decisions of the courts concerning

the constitutionality and the application of these statutes. Some of the important common law rulings of the courts affecting the legality of the objects and methods of American trade unionism are also included.

In many instances the laws are reprinted in their statutory form, save for minor editing and omissions. Descriptive summaries by the editors are also included where they are helpful as background material. The cases themselves are transcribed directly, in order to furnish the reader with the actual reasoning of the court in its original form. Where important dissenting opinions were involved, as for instance in *Morehead v. New York ex rel. Tipaldo,* where Mr. Justice Stone offered a vigorous criticism of the majority reasoning, the authors have made available the argument of the minority justices. Since many of the decisions of the Supreme Court in recent years were presaged in dissenting opinions of earlier years, the inclusion of these differences in judicial opinion is very valuable for the reader.

The material of the book has been divided into two major sections: one which is termed "Governmental Influences on Collective Bargaining," and the other "Government and the Labor Contract." Under the first topic, which was the work of Mr. Raushenbush, there are presented these subjects: picketing and intimidation, criminal syndicalism, laws affecting assembly and picketing, boycotts, the closed shop, mediation and arbitration, and the National Labor Relations act.

In the second topic, prepared by Mr. Stein, the material has been classified under these heads: regulation of labor supply, wages and hours laws, regulation of working conditions, workmen's and unemployment compensation, and old-age assistance and benefits.

Perhaps the greatest value of the book is that it gathers together conveniently a great number of important acts of legislation and related court decisions. Any teacher of labor law will perceive the advantages which this procedure affords. And if he is an exponent of the case method, as the authors declare themselves to be, he will possess in this work an indispensable teaching vehicle, since the student is given the primary materials of labor law for his own analysis and evaluation. This does much to replace the use of commentaries and secondary sources as a basis for course instruction.

In addition to presenting the sort of subject matter one might ordinarily expect to find in a book of this character, the authors have made some noteworthy additions. Thus the chapter dealing with mediation and arbitration contains a section on the limitations confronting unions in war and defense industries, in which the procedure of the First World War is set forth, along with some current issues and problems. In the chapter entitled, "The Borders of Violence," there is included considerable important historical material concerning industrial conflicts, along with related court decisions bearing on such disputes. Moreover, in the chapter on free speech and unionism, there are to be found the important decisions of the U. S. Supreme Court in the de Jonge and Hague cases, dealing with criminal syndicalism and with laws and administrative actions which affect the right of assembly. In the discussion of the National Labor Relations act, the authors have included an analysis of the bargaining unit problem, joining to it the decisions of the Court in

the International Association of Machinists and the Pittsburgh Plate Glass cases. Finally, in the chapter on the minimum wage, there is included a section on the Fair Labor Standards act, in which direct excerpts from the statute, as well as decisions of the Court in the Darby Lumber and Opp Mills cases, are to be found.

The material is well classified and carefully indexed. There is a useful analytical table of contents, a bibliography that is broken down by chapter headings, a table of cases with related page references, and the usual subject index. The result is a work of careful scholarship and considerable usefulness.

Dr. McNaughton's study, entitled *The Development of Labor Relations Law,* represents an attempt at an analytical and genealogical treatment of the changes which have occurred in this field of law during the thirties. The center of interest is the labor bargain and the rights of unions and of management in matters of labor relations policy. The contents are arranged for "the student of business rather than . . . the lawyer." The result is not a very original treatment of the problem, which is probably partially dictated by the author's decision to cover the field—a vast field, at that—rather than to deal intensively with a narrower and more workable sector.

Dr. McNaughton believes that labor relations law is a function of the forces of three distinct interest-groups: employers, employees, and what he terms "society as a whole." The simplicity of this breakdown, together with the author's judgment that laws such as the National Labor Relations act ". . . can remain in force only so long as public opinion tolerates them," may be questioned. Public opinion is a rather tenuous concept, and it is a long and risky step to assume that it stands in a direct and precise relationship to legislatures and their activities. Political power is just not that evenly diffused in our society.

The treatment of laws developed to protect the interests of employers is centered on an examination of the legal status of the different tactics used by employers to strengthen their bargaining power. These tactics include "positive" efforts to strengthen the market position of employers, and "negative" efforts to weaken the bargaining status of the sellers of labor power. The same formal treatment is then applied to the activities of employees. Each tactic in the bargaining struggle is analyzed in terms of statutory enactments and common law decisions, in order that its legal status may be determined. In his findings and conclusions, the author has relied heavily upon what the courts have said, and upon what other students think about what the courts have said. The result is that there is very little original evaluation either of specific trends or of instances of reasoning.

G. H. HILDEBRAND, JR.

University of Texas

Occupational Mobility: Democratic Efficiency through the Use of Human Resources. By OMAR PANCOAST, JR. (New York: Columbia Univ. Press. 1941. Pp. viii, 155. $1.75.)

The author describes an ambitious, threefold purpose: to publish a doctoral

dissertation; to popularize a course of political and social action; and to demonstrate an application of economic theory in terms that a layman can understand. The first of these is obviously accomplished.

There are eight chapters. The first poses the question: Can democratic methods employ our human resources effectively? Four chapters then summarize historic and current economic points of view toward labor mobility and the allocation of labor power in modern society. In chapter VI, the author outlines his own proposal and indicates how labor can be properly distributed within the framework of a democratic society. Chapters VII and VIII present the author's answer to some of the questions raised by his proposal and summarize his final conclusions.

The study seeks "to develop a line of consistent thinking, on the basis of which we could build a sound policy of labor allocation" (pp. 8-9). The author believes that "it justifies a renewal of faith in the decentralized, individualistic method of running our economic affairs" (p. 10). Economic consideration of labor allocation up to this time has been largely concerned with the possible relationship between wage adjustments and employment. Argument has centered on the probable elasticity of demand for specific types of workers, as, for instance, those in the building trades. Mr. Keynes has, however, pointed to one weakness in such analysis in its tendency to ignore the essential interrelationship of distributional and productive aspects of an economy, *e.g.*, the effects of increased shares of income for certain groups on savings and consumption. "It is left to the present writer to apply the newer methods of analysis (especially the Keynesian framework) to tracing the actual steps by which mobility might be expected to improve employment and general economic efficiency" (p. 106), and to demonstrate the effectiveness of a reduction of wage differentials, as distinguished from the Keynesian concept of a universal and proportionate decrease of all wages.

The author's proposal is, then, that society facilitate, by special training and/or whatever means appear likely to be effective, the movement of workers from lower paid into higher paid occupations. The first contemplated result will be a reduction in earnings differentials as earnings of lower paid workers rise and those of higher paid workers decline. The shift will increase the propensity to consume on the part of workers involved and the public. Opportunities for capital investment will be increased, and business morale will be maintained at a high level. The social cost of retraining and facilitating such shifts would be generously compensated by the improved employment situation. Indeed, this program is essential, for now "the better opportunities to make a living [are] preëmpted by a few groups" and "the lack of buying power in the rest of the population condemns even this privileged fraction to a decreasing market for what they sell and higher costs for what they buy" (p. 135).

Laymen may be more impressed with this line of argument than can be expected of those who have had occasion to study labor markets. For it involves a subtle but possibly important confusion of wage rates and earnings and some highly significant questions as to the elasticity of demand for various types of labor and for the products of that labor. Thus when workers

shift from low to higher paid occupations, it appears likely that (1) wage rates in the high level occupation will fall, and (2) wage rates in the lower level occupation will rise. But whether earnings will rise in either case depends on the elasticity of demand in these markets. That cannot be measured by assumptions, particularly questionable ones such as that demand is "notoriously inelastic" in extractive industries (pp. 109 and 136). Nor is it so simple that "at the worst, we might set statisticians to discover the areas where such conditions prevail" (p. 111). The point is, as the author cleverly and effectively demonstrated in his chapter III, that almost nothing is known as to the elasticity of demand for labor in specific markets. Until factual knowledge is available, demonstrations such as this can be presented only as hypotheses rather than conclusions.

The hypothesis thus stated is, however, intriguing and worthy of careful study. Only empirical investigation of specific labor markets can provide a factual basis for appraising its practical value.

DALE YODER

University of Minnesota

Economics of Labor. By RICHARD A. LESTER (New York: Macmillan. 1941. Pp. xv, 913. $3.75.)

In many American colleges and universities the study of labor problems is either omitted entirely or treated as a shabby and unwanted visiting relation by the reputable members of the economics family. The explanation is multiple. But I suspect that one factor is the failure on the part of students of labor to master and use the organon of theory which is central in most serious work in the subject. This failure is apparent in the textbooks available for college courses in labor problems. There is the familiar description of the social and political trends influencing labor history. There are the position of trade union organization and the techniques used by them to improve the welfare of members. There is ordinarily but an incidental and apologetic use of theory, and a corresponding inattention to certain economic problems that require theory if they are to be studied at all. It is frequently difficult to decide whether the result is a book in economics or not.

Mr. Lester writes as an economist, determined to employ the analytical instruments of the economist in his study of the problems of labor. Let it be said at once that he has carried out his determination with persistence and skill.

Over one-half of his long book is devoted to "Labor's Economic Problems": wages, income, employment, hours, relief, old-age, accidents and the rest. Each is analyzed with the full kit of the economist's tools at hand. The emphasis is ever upon the problems as derived from and affected by the market situation. More arresting still is the inclusion in his tool-kit of those shining instruments of monopolistic-competition and savings-investment-income theory, which are the outstanding contributions of the last half-century.

His was no easy task. As he would perhaps be the first to admit, it requires doing again and again if the most effective way of presenting a difficult and

subtle material is to be found. The several chapters on wages and employment rest on an extensive body of literature in price and income theory. They should help the hard-working student to a deeper understanding of the problems than can be won in any other way. But the inherent difficulties are so great that I doubt whether most undergraduates, as now prepared, can surmount them successfully. If they are to do so, they must first of all gain a firm elementary grasp of contemporary price theory. A course in monetary or income theory would also prove highly desirable. Otherwise, Mr. Lester's writing will be very refractory indeed, for all the fact that it is in my opinion well done, and sound in its general directives.

Consistent with his theoretical chapters, Lester has included a set of studies of specific market situations in which labor organization has grown: transportation, coal, clothing, steel, newspapers. They run in terms of the effect of the economics of the industries upon labor relations, and are excellent. Teachers can readily expand this section at will, by similar forays into other organized fields. Students should gain rich insight into the rationale of union techniques, their limitations, and the consequences of their use on the welfare of union members, of workers outside their ranks, and the economy as a whole. By continuous reference to the theory previously discussed, Lester evokes an enviable unity of presentation.

His emphasis upon principles is at the expense of emphasis on facts as such. This is no loss, for, as he says in his preface, "facts mean little until they are examined and interpreted." The teacher can easily supplement Lester by referring students to the abundant factual data in newspapers, magazines, and private or public reports.

Some readers will consider his chapters on labor organizations, employer attitudes, and government intervention inadequate. In my opinion, Lester might well have emphasized more than he has the National Labor Relations act, the forces that so dramatically led to its adoption, and the subsequent work of the National Labor Relations Board. The political aspects of the labor movement and the baffling problems of dual unionism could thus have been brought into higher relief. These deficiencies can, however, be repaired.

The book will win approval on its central distinction: emphasis on theory, the market, and contemporary price and income analysis. For graduate students it is an excellent manual. For undergraduates I hope it may soon become so as teachers coöperate by giving students more adequate training before permitting them to tackle some of the most difficult problems in the entire field of economics.

J. Raymond Walsh

Williams College

Stabilizing Jobs and Wages through Better Business Management. By Herman Feldman. (New York: Harper. 1940. Pp. xv, 334. $3.50.)

Dean Feldman's name is well known as a student and proponent of plans for the regularization of employment and income. The present volume is a welcome addition to his earlier work in this field. It is his conviction that

in spite of the many factors operating to produce job insecurity, the efforts of pioneering firms have demonstrated that much can be done to produce a greater degree of regularity in work and wages. A persistent purpose, imagination and appropriate methods on the part of management can, he believes, accomplish this result. He sets out, by reference to the experience of over a hundred firms, to stimulate the imagination and suggest the methods.

This is the primary utility of the book. It is a handbook of possibilities in the field of employment regularization which demonstrates the inventiveness of American management and which, at the same time, describes their efforts in enough detail to provide stimulus for those who lack such inventiveness.

Systematically he discusses the various possibilities: market research and distribution planning, diversification and simplification of product, market controls, balancing the work schedule, planning and administering technological change, personnel practices, wage payment stabilization, seniority provisions, interplant coöperation, and other devices. Each area of effort is described in detail, the advantages, disadvantages, and problems of each are explored. The latter includes an exploration of the issues raised by the necessity of administering such projects in an era of industrial relations thoroughly modified by new developments in labor organization and social legislation.

This is enough for one book and a major contribution to thought. One hopes, however, that the author will continue his work in this field and give us eventually a comparative study of the experiments which failed, as well as of those which had some measure of success, in order that we may understand the factors which make for succeess and failure in such attempts. In the present work, Feldman has given a stimulating account of the alternative means of accomplishing a desirable and increasingly important objective. For the most part he leaves to management the task of learning by trial and error the adaptability of these means to their own circumstances. Ultimately, of course, that must be done. But a more thoroughgoing analysis of the factors making for success or failure would make that adaptation less open to error.

E. Wight Bakke

Yale University

Social Insurance; Relief; Pensions; Public Welfare

Economics of Social Security. By Seymour E. Harris. (New York: McGraw-Hill. 1941. Pp. 455. $5.00.)

This study might be termed an approach to some basic aspects and problems of the American social security program from the point of view of modern economic theory. The author is not interested in social security as an institution to improve the lot of its beneficiaries, but in its effects upon the volume and fluctuations of output and employment in the economy as a whole. It is a study addressed to the students of banking and monetary theory, fiscal

policy, and economic fluctuations, at least as much as to people who are interested in social security for its own sake.

This book is dedicated to J. M. Keynes. The author is a Keynesian, but not a slavish follower of Keynes. He is most appropriately described as an economist who brings to bear on the problems he considers all major recent developments in economic theory. He avoids unsupported assertions; instead, he carefully analyzes his problems and logically develops his conclusions. At the same time, he fairly presents arguments and points of view with which he does not agree. His treatment is scholarly and convincing throughout.

There are three parts to this study: the relation of the social security program to output, questions of finance and reserves, and the incidence and effects of payroll taxes. All are brought together in an opening summary chapter, followed by a more extended discussion of some of the practical applications of the author's conclusions. Briefer summaries occur at the end of the treatment of each major subject. These are the parts of the book in which general readers will be most interested, but students of economic theory will get most out of the carefully reasoned discussion upon which the conclusions are based.

In Part I, the first question considered is that of the deflationary effects of the reserves in the social security program. The author concludes that on this issue no decisive answer is possible. The social security taxes, which then went almost entirely into reserves, were a factor in bringing on the depression of 1937-38. Other factors, however, were more important, and if all social security receipts and payments are taken into consideration, there was a large net contribution to spending by the Treasury.

Next, the author discusses the effects of the social security program on savings, consumption, prices, and output. These effects will vary with methods of financing, the degree of employment of the factors of production, the extent of their mobility, the propensity to save, the rate of investment, and still other variables. Any attempt to give dogmatic answers to the many theoretical questions which arise at this point is unscientific.

The final subject discussed in Part I is that of the investment of the social security funds. It was this problem which attracted the author to the comprehensive study of the economics of social security which he has undertaken. His conclusion on this subject is that "on the whole, the system in operation seems to be the most acceptable one."

The discussion in Part II, "Finances and Reserves," centers around the controversy over reserves in the old-age insurance system which raged so furiously prior to the Social Security Act Amendments of 1939. The general conclusion is that, while the 1939 amendments helped to allay opposition to the program, they, unfortunately, were supported by untenable arguments which may have serious consequences in future years. The 1935 law did not provide for full reserve financing, and the reserve by 1980 would almost certainly have been smaller than $47,000,000,000. "Pay-as-you-go" as used in this controversy is a most inappropriate term, as it is really deficit financing, with no provisions for meeting the cash deficits when they arise. "There is a real danger of the non-fulfillment of promised benefits in the later years" and

an absolute certainty that very greatly increased taxes will be necessary to meet the increasing obligations for promised benefits. In view of this situation, the reduction in the taxes of the next three years, made in the 1939 amendments, was a mistake. While the $1,000,000,000 of revenue which will be lost by reason of this tax reduction does not bulk large in comparison with the total of the taxes which are expected to be collected in the next few generations for old-age insurance purposes, it is ominous that this needed revenue was lost "at the first signs of pressure." The mistake made is the more tragic because, within a few months, we had to launch our great defense effort, in which concern about the alleged deflationary effects of the social security taxes has been superseded by anxiety about inflationary price rises.

Part III deals with the incidence and effects of the pay roll taxes. This is the longest part of the book and seems to the reviewer to exhaust the subject. The conclusion reached is that "The more or less accepted theory that labor ultimately pays the costs either through a reduction of money wages or of employment is subject to important reservations. A substantial part of the burden falls elsewhere."

While the above summaries present the author's major conclusions, they do not convey an adequate idea of the real merits of this study. These lie in the data and reasoning behind these conclusions. While mainly a theoretical discussion, a great mass of statistical and other data bearing on the problems dealt with is brought into the picture. With rare skill, the interrelation of these problems and the dependence of the correct answers upon many variables is never lost sight of.

Most of the specific questions considered are issues which were to the front before Congress amended the Social Security act in 1939. New amendments are soon to come before Congress and these raise new questions. Because the author has dealt with fundamentals, however, this study is most timely. It is certain to be widely quoted in the debate over the proposed new amendments. It is to be hoped, also, that it will influence the action taken, and, to the extent that it does so, we will have sounder social security legislation than we are otherwise likely to get.

This is a book which all those who have responsibility for formulating the social security legislation of the country should read. It is valuable also to all students of modern economic theory and of social insurance. It is an excellent illustration of the possibilities which theory affords for the sound solution of complicated economic problems.

EDWIN E. WITTE

University of Wisconsin

Society and Medical Progress. By BERNHARD J. STERN. (Princeton: Princeton Univ. Press. 1941. Pp. xvii, 264. $3.00.)

In his autobiography some years ago, the well-known economist and sociologist Franz Oppenheimer reported that his experience as a physician in Berlin at the end of the nineteenth century made him aware of the close relationship between medicine and social conditions, and led him to dedicate

his life to a socio-economic study of society through which he hoped to find an answer to the medical problem which confronted him. The author of this book has moved in the opposite direction: Research in social institutions led him to problems of physical pathology which he regards as basically social, although medical science previously had claimed them as its exclusive domain. Sharing his view, the Committee on Research in Medical Economics invited him to carry further his studies on the interrelations of medicine and society to which he had contributed in 1927 in *Social Factors in Medical Progress*. *Society and Medical Progress* is the outcome.

Medical science has never been self-sufficient. Its development, therefore, cannot be traced purely biographically, *i.e.*, by following the approach of the medical profession to its problems. Instead, it is necessary to note the close association of the growth of medicine with that of other sciences. Medicine derived special impetus, for instance, from the concept of natural philosophy; from mathematics which permitted quantitative records for description and prognosis; from biology, botany, physics, chemistry, and lately from psychology and sociology. In the last century its progress has been influenced greatly by rapid urbanization with its concomitant insanitation, congested slums, and social class stratification; by the transformation of a locally self-sufficient agricultural economy into an internationally interdependent industrial economy; by tremendous population increases; by establishment of institutions such as hospitals and public health agencies, etc. In turn, medicine has affected other sciences by revolutionary discoveries in its own field; by transforming the age composition of the population; by increasing health standards greatly; by stimulating important industries serving its ever-expanding purposes, etc.

The progress of medicine, however, has been a tragic history of prejudices, errors, obstacles, and missed opportunities. In the brilliant chapter on "Resistances to Medical Change" we become acquainted with the partly irrational, and partly calculating, forces ever in the way of medical innovation. Vested interests, personal rivalry, academic bureaucracy, intellectual blindness, doctrinarianism are the *raison* of the long and arduous, but finally triumphant, evolution of medicine from magico-religious supernaturalism to its present qualification as a science.

The progress of medicine could be much greater if socio-economic conditions were more favorable. For example, malnutrition, the cause of many diseases, is clearly an anachronism in contemporary society which has the knowledge to make an adequate food supply available to all. By showing the grievous disparity between available medical knowledge and its lagging application in social reality, the author places before society the vital alternative on which further medical development depends: either progress by transforming our socio-economic system according to medical postulates, or stagnate in the present discrepancy. It is a constructive conclusion to a thoroughly suggestive book.

PHILIPP WEINTRAUB

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British Unemployment Programs, 1920-1938. By EVELINE M. BURNS. (Washington: Committee on Social Security, Social Science Research Council. 1941. Pp. xx, 385. $2.75.)

When in 1911 Great Britain invented the scheme of national unemployment insurance she was initiating a radical change in provision for the unemployed. Freed from the deterrent devices embodied in the age-old poor relief system, the insecure worker now by contractual right drew a specified weekly sum without the necessity of first exhausting his other resources or of submitting to the hated means test or to other coercive controls. This right was hedged about with certain economic safeguards, which limited the amount of payments and their duration in relation to a fixed number of contributions (taxes) paid by the insured or in his behalf and thus confined the system to those who were ordinarily short-period unemployed. The numbers benefited in the beginning were few and unlikely to be corrupted by generous treatment. As the magnified unemployment problem during the next three decades challenged the country to a more extended treatment, other groups of unemployed were swept into the program, category by category. Those unemployed because of the war were given from the Treasury out-of-work donations (1915-1921), and the long-time insured unemployed who had exhausted their contractual benefits received uncovenanted benefits (1921-1931), transitional payments (1931-1935) and payments from the Unemployment Assistance Board (1935 to the present), while the local poor relief (public assistance) system took full responsibility for the unemployed not comprised in these categories. In fact the local authorities were used from 1931 to 1935 as agencies to administer the means test to applicants for transitional payments from the national insurance funds. Unemployment insurance has been the basic element in this British amalgam, although in the treatment of the residual unemployed the other institutions have influenced the insurance system and have been influenced by it.

In her study of British policy in the many-sided issues concerned with large-scale unemployment from 1920 to 1938—the period between the two world wars—Dr. Burns has emphasized the interaction of insurance and of public assistance. The peculiar characteristics of insurance—limited benefits for a limited duration—required supplementary measures flexible enough to meet family needs in long-time unemployment. Once the residual unemployed also have received the right to be well treated, Dr. Burns raises the question whether unemployment insurance needs distinguishing status and whether the right to the "insurance" type of benefit has not become so firmly established in Great Britain as to make unnecessary the independent and separately financed insurance system. Progress made since 1935 in the combination of insurance and unemployment assistance—in scope, flexibility, finance and administration—suggests the possibility of a basic unification, at least in finance.

In fuller perspective Dr. Burns assesses the achievements of the British system for handling unemployment relief demands: its basic stability; its freedom from political and personal bias toward the individual; its success

in recruiting the service and coöperation of private citizens for administration; and its success in operating a complicated categorical relief program. She emphasizes the outstanding failure to initiate significant positive programs of training and public works. These successes and failures are explained in terms of their proper British social and political setting. While wisely avoiding loose comparisons of British experience with that of any other industrial country, Dr. Burns draws a conclusion which students of unemployment in all democratic countries may well ponder. Social policies and programs cannot operate in watertight compartments. "For a community which has accepted the idea of the basic minimum as fully as has Great Britain, the discovery that the sum of money necessary to assure this standard to an unemployed man may be in excess of that earned by many workers in full employment acts not solely as an argument to reduce unemployment assistance, but becomes also a challenge to remove the social inadequacies of the wage system" (p. 336).

The author's analysis of British policy as it developed step by step is penetrating, balanced, detached and realistic. It is based upon personal experience in the British Ministry of Labour, extensive interviews with officials and citizens, correspondence and documentary materials. Numerous tables in the appendix aid the American reader to appraise the extent of unemployment in Great Britain. The reviewer knows of no study of this subject which has comparable scope and analytical value.

ELINOR PANCOAST

Goucher College

Population; Migration; Vital Statistics

Foundations of American Population Policy. By FRANK LORIMER, ELLEN WINSTON and LOUISE KISER. (New York: Harper. 1940. Pp. xiii, 178. $2.50.)

Prepared by a committee of specialists for the National Economic and Social Planning Association, this volume will be of interest to economists primarily because it proposes a public policy. In essence, it is an appeal for the integration of population policy with national social planning. Although much has been written about European policies, this is the first book to attempt the formulation of an American plan to combat the steady decrease in the birth rate among important groups of our society.

Two generalizations are made by the authors from the demographic analysis: (1) there are certain population trends taking place in this country, especially for the middle clases, which are inherently self-destructive; (2) these trends are largely determined by social conditions and are, therefore, subject to social control. The basic objectives are set forth as a higher standard of living for the majority of our people, conservation of natural resources, and a general improvement in health and cultural capacities.

The data on which the conclusions are based consist of chapters on population trends and the relation of these trends to labor and natural resources, consumption patterns, investment and economic enterprise, social aspects, and the changing pattern of the family. It is pointed out that a decline in actual numbers seems almost inevitable. If present trends continue, the actual reproduction rate within a few decades may not be more than three-fourths, or even two-thirds, of that required for the maintenance of a permanent population. The differential birth rate places a cruel burden upon certain groups in our society to furnish the forthcoming generations. These groups, as a rule, have the fewest economic, cultural, and educational advantages. Even if this fact should not prove important from the qualitative aspect, it is doubtful that society can fully overcome these environmental factors by costly and mounting outlays. The force of the differential birth rate is brought out by some interesting facts. For example, the rate for the Spanish-Americans, Mexicans, and Indians in this country is so high that these groups may in time become as numerous as the Negro population (p. 23). In spite of the skillfully-prepared material, however, for those familiar with the previous work of Lorimer and Osborn (*Dynamics of Population*) and the recent work of Carter Goodrich and the National Resources Committee, there is little new.

The chapter on "Population, Investment, and Economic Enterprise" consists of only twelve pages and suggests that the decline in population growth may intensify the forces of depression and stagnation. References are made to articles of Professor Hansen and Mr. Keynes. In short, the remedy for this cessation of growth is planning on a national scale and the extension of governmental enterprise and services.

Of primary importance in this study are the positive measures recommended in the last chapter which may be summarized as follows:

1. Stimulation of investment and economic activity, and an increase in the general level of consumption through planning. An increased participation of the government together with an extension of public services.

2. Moderation of the present handicaps of families with several children by payments in kind by society, such as maternity care, housing programs, lunches for children, and other benefits.

3. Distribution of contraceptive information and devices equally to all classes and areas.

4. A large and wide extension of public provision for medical care, especially for mothers and children.

5. Plans, such as part-time and periodic employment and maternity leave, for the removal of the difficulties of the participation of mothers in work outside the home.

6. The development of public and community attitudes, and increased interest in children; consumer coöperatives, and other forms of community and coöperative enterprises.

All will agree that the basic objectives set forth in this book are desirable, but there will be disagreement as to how they are to be attained. The authors of course realize that population studies arouse strong emotions, and that

there will always be opposition to certain aspects of their proposed policy. Not every economist will be in agreement with the broad, national planning advocated; some are not even alarmed about the cessation of population growth.

This book says little about what seems to be the greatest gap in population literature requisite for planning—the lack of authoritative data which shows why families do not have children.[1] The availability of contraceptive measures to all classes would undoubtedly lower the birth rate, but it is not at all certain that the removal of economic burdens through public benefits, and the other measures suggested, would cause our middle-class group to have a sufficient number of chidren to replace themselves.

Myrdal, in his recent book, calls population "the grand tradition of the economist." Inasmuch as the present war will bring forth new problems, and the need for an early consideration of them, it is to be hoped that more economists will return to their "grand tradition" and join with other workers in tearing down the lettered compartments of social science and take part in formulating a policy. The book at hand is a constructive beginning.

LAWRENCE R. CHENAULT

Hunter College

Unclassified Items

Human Nature and the Social Order. By E. L. THORNDIKE. (New York: Macmillan. 1940. Pp. xx, 1019. $4.00.)

Professor Thorndike set for himself a challenging and formidable task in assembling the "substantial contribution" which "human biology and psychology" make to an "adequate science of human thought." The very attempt in its boldness calls to mind the several Outlines of H. G. Wells; but this volume lacks their readability and their intangible sense of sweep and vision and verve.

To this reviewer, Part I, which provides the background of formal psychological knowledge, is far and away the better half of the book. Here Thorndike is on ground he has made his own through a lifetime of study. One may recognize the omissions from the psychological overview—the virtual ignoring of the Freudian and *gestalt* approaches. But he has presented here what students of his texts have been taught to expect. This recapitulation consumes four hundred of the thousand pages.

Part II ranges over an enormous area of social activities, trying to establish some long-range, verifiable truths of human nature in its broad social setting. The chapter titles alone indicate a range of topics upon which it would not be surprising if any one student were less than conclusive or satisfactory in

[1] The Milbank Memorial Fund has recently completed a study on this subject.

his pronouncements. Perhaps one can most readily suggest the limitations of the method employed by a few sentences which are not too untypical.

> Common observation seems to indicate that capitalists and business men are less sharp and greedy in their dealings with their workmen than with other capitalists and business men and with the purchasing public. The purchasing and sales departments probably drive harder bargains than the personnel department . . . (p. 581).
>
> It can be argued that industrial management of the future will profit from the sacrifice of courage and dominance to reliability and coöperativeness. All these matters are more suitable for research than for discussion (p. 624).
>
> In so far as the trouble lies in our institutions, laws, and customs, science should improve them as it has improved our material instruments. If it also lies deeper, in human nature itself, science should improve human nature (p. 583).
>
> Reforms which concern the ownership of material property concern only a rather small fraction of human life (p. 698).
>
> It may further be taken as certain that the welfare of society will never be cared for by society acting by itself, but only by the acts of persons (p. 720).
>
> Psychology finds little friendship between *vox populi* and *vox dei.* It would justify majority decisions, if at all, on the grounds that they are convenient to obtain, commanded respect and allegiance in a country where they were customary, and were insurance against various pernicious sorts of oligarchy (p. 793).

If this kind of sentence is psychological science in the service of human welfare, one hopes that the science of semantics will have a prior development.

Finally, it is not captious to point out that despite the twelve-page bibliography the omissions are conspicuous as to those phases of applied psychology which have latterly had scholarly formulation. The work of the Harvard group around Elton Mayo, of Kornhauser, McMurray, Link, Houser and others, comes at once to mind.

Realization of the investment in mentality and money which this encyclopedic volume represents constitutes an embarrassment to the reviewer who would be discriminating yet appreciative. Perhaps the time has passed when any one writer should essay this kind of task. The difficulties of it for a single author are obvious. But the difficulty of the task and the eminence of the author should not deter the reviewer from announcing his conclusion that the total product is disappointing.

ORDWAY TEAD

New York

TITLES OF NEW BOOKS

Economic Theory; General Works

BLADEN, V. W. *An introduction to political economy.* (Toronto: Univ. of Toronto Press. 1941. Pp. x, 299. $2.25.)

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Contains the following papers: "Economic Resources in Economic Theory," by W. C. Mitchell; "Our Future Economic Defense," by H. Hoover; "Investment in Relation to Business Activity and Employment," by J. M. Clark; "Capital Formation, 1879-1938," by S. Kuznets; "Investment Incentives," by A. H. Hansen; "American Research in Price History," E. J. Hamilton; "The Professional Accountant's Responsibilities to the Public," by J. K. Mathieson; "Management's Responsibilities to the Public for Accounting Report," by Phillip L. West; "The Government's Responsibility for the Regulation of Accounting Reports," by W. W. Werntz; "The Development of National Labor Policy," by S. H. Slichter; "Is Unemployment Inevitable?" by J. D. Brown; "Is Unemployment Inevitable?" by W. A. Berridge.

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The reasons for the establishment of the foreign trade monopoly by the Soviet government and its effect upon the industrialization of Russia are reviewed in this book.—M. V. Condoide

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NOTES

Editorial Note—With this number, various minor changes are introduced into the format of the *Review*. The principal change is a completely different type which, to my eye at least, increases the ease of reading. The new design of the cover is strictly tentative and subject to later more radical changes. It had been intended to start this volume with such changes as a longer page, broader margins, and new paper and cover stock; but commitments which had been made for paper prevented it for the current year. After that, no doubt we shall be lucky to get paper at all.

The only noticeable alteration of internal structure is the running of all reviews consecutively, instead of interlarding them into the booklist. They are still kept classified, but I am inclined to the further step of ignoring the classification, and presenting them in whatever order seems good and proper. On this point I am, however, open to persuasion.—P.T.H.

The fifty-fifth annual meeting of the American Economic Association will be held late in December, 1942, at Cleveland. Russell Weisman, associate professor in the business and economics department of Western Reserve University, has been named chairman of the local arrangements committee.

The Nominating Committee of the American Economic Association has been appointed, as follows: Frederick C. Mills, National Bureau of Economic Research, chairman; William Adams Brown, Jr., Brown University; Morris A. Copeland, Division of Statistics, War Production Board; Clare E. Griffin, School of Business, University of Michigan; Donald M. Halley, The Tulane University of Louisiana; John Ise, Kansas State University; and George Terborgh, secretary, Machinery and Allied Products Institute.

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At the twentieth annual meeting of the Pacific Coast Economic Association, held December 29-30 at the University of Southern California, the following officers for 1942 were elected: Bernard F. Haley, Stanford University, president; James H. Gilbert, University of Oregon, vice president; Hampton K. Snell, University of Southern California, secretary-treasurer; Clark Kerr, University of Washington, editor. New members of the executive committee are Norman S. Buchanan, University of California, Berkeley; and Paul Dodd, University of California, Los Angeles. Other executive committee members are Hampton K. Snell; Elmer J. Brown, University of Arizona; and Marvell M. Stockwell, University of California, Los Angeles. Rockwell D. Hunt, University of Southern California, was elected to the Board of Trustees, of which the remaining members are Kenneth Duncan, Pomona College; and Richard B. Heflebower, State College of Washington.

The Proceedings of the meeting will be published in March or April and may be ordered from the secretary-treasurer. Single copies will cost $1.50.

The program of the 1941 conference was as follows:

The Defense Program: Labor, Prices—"Collective Bargaining and National Defense," by Evan B. Murray, Utah State Agricultural College.

Economic Developments on the Pacific Slope—"The Impact of New Land Developments upon the Agriculture of the Pacific Slope," by John A. Guthrie, State College of Washington; "The Impact of Columbia River Development upon Industry in the Pacific Northwest," by Samuel T. Moment, U. S. Department of the Interior.

The Defense Program: Finance—"Taxation as a Means of Controlling Runaway Prices," by Vernon G. Sorrell, University of New Mexico; "Fiscal Policy and the Defense Program," by A. P. L. Turner, Jr., Montana State University.

Economic Theory—"Theoretical Notes on Advertising Policy: Its Place among the Competitive Policies of the Firm," by Roy W. Jastram, Stanford University; "Uncertainty and Idle Balances," by William J. Fellner, University of California.

The Defense Program: International Economic Relations—"More Trouble for

the Latins: An Analysis of the Latin-American Trade Relations in the Present Emergency," by Clayton D. Carus, University of Southern California; "Canadian-American Economic Relations in the Present War," by A. W. Curtis, University of British Columbia.

ACCOUNTANTS' AND ECONOMISTS' CONCEPTS OF COSTS—"The Theory of Asset Valuation Implied by Accounting Principles," by Joe S. Bain, Jr., University of California; "The Use of Accounting Data in Cost Analysis," by Maurice Moonitz, University of Santa Clara.

PROBLEMS OF POST-WAR RECONSTRUCTION—"Business Confidence as a Factor in Post-War Reconstruction," by George W. Zinke, Occidental College; "Post-War Reconstruction from the Point of View of a Sociologist," by Elon H. Moore.

EXAMPLES OF ECONOMIC ANALYSIS AS A BASIS FOR PUBLIC POLICY—"The Application of Economic Analysis to American Antitrust Law Policy," by Vernon A. Mund, University of Washington; "The Proposal for Federal Incorporation or Licensing of Interstate Corporations: The Place of Economic Analysis in Evaluating the Proposal," by J. O. McClintic, Pasadena Junior College.

DINNER MEETING—"Regionalism and Economic Welfare," by Robert D. Calkins, Columbia University; "A Sociologist Looks at War," by Jesse F. Steiner, University of Washington.

The allied social science associations are being served by the following officers during the present year:

AMERICAN ECONOMIC ASSOCIATION—Edwin G. Nourse, Brookings Institution, Washington, D.C., president; James W. Bell, Northwestern University, secretary.

AMERICAN ACCOUNTING ASSOCIATION—H. F. Taggart, 1505 Delafield Place, Washington, D.C., president; Robert L. Dixon, University of Chicago, secretary.

AMERICAN ASSOCIATION FOR LABOR LEGISLATION—Joseph P. Chamberlain, 131 East 23rd Street, New York City; John B. Andrews, 131 East 23rd Street, New York City, secretary.

AMERICAN ASSOCIATION OF UNIVERSITY TEACHERS OF INSURANCE—Edison L. Bowers, Ohio State University, president; Chester A. Kline, University of Pennsylvania, secretary.

AMERICAN BUSINESS LAW ASSOCIATION—Essel R. Dillavan, University of Illinois, president; Robert E. Lee, Temple University, secretary.

AMERICAN FARM ECONOMIC ASSOCIATION—George S. Wehrwein, University of Wisconsin, president; Asher Hobson, University of Wisconsin, secretary.

AMERICAN FINANCE ASSOCIATION—Charles L. Prather, Syracuse University, president; Louis J. Long, Allegheny College, secretary.

AMERICAN MARKETING ASSOCIATION—Vergil D. Reed, Bureau of the Census, Washington, D.C., president; Albert Haring, Indiana University, secretary.

AMERICAN SOCIOLOGICAL SOCIETY—Dwight Sanderson, Cornell University, president; Conrad Taeuber, Department of Agriculture, Room 3621, South Building, Washington, D.C., secretary.

AMERICAN STATISTICAL ASSOCIATION—Alfred J. Lotka, 1 Madison Avenue, New York City, president; Richard L. Funkhouser, American University, secretary.

ECONOMETRIC SOCIETY—Wesley C. Mitchell, Columbia University, president; Alfred Cowles, III, Cowles Commission, University of Chicago, secretary.

INSTITUTE OF MATHEMATICAL STATISTICS—C. C. Craig, University of Michigan, president; E. G. Olds, Carnegie Institute of Technology, secretary.

RURAL SOCIOLOGICAL SOCIETY—C. E. Lively, University of Missouri, president; Robert A. Polson, Cornell University, secretary.

A National Study Conference on "The Churches and a Just and Durable Peace," sponsored by the Federal Council of the Churches of Christ in America was held at Ohio Wesleyan University, March 3-5. The chairman in charge of arrangements was Mr. John Foster Dulles. The conference was broken up into four study groups: (1) the political bases of a just and durable peace; (2) the economic bases; (3) the social bases,

including racial and cultural factors; (4) the church's program in relation to a just and durable peace.

Ten graduate fellowships in government management will be awarded on a competitive basis at the University of Denver under a grant from the Alfred P. Sloan Foundation. The training period may begin June, 1942, rather than September as originally announced. Applications must be filed not later than March 10, 1942. Those interested should address the Department of Government Management, University of Denver School of Commerce, Denver, Colorado.

Beginning in June, 1942, the Department of Economics of Vanderbilt University will offer a limited number of courses during the summer.

The Special Libraries Association has undertaken a complete survey of the *Special Library Resources of the United States and Canada.* Volume I recently published gives complete and detailed information on 765 libraries. The address of the association is 31 East 10th Street, New York City.

The Journal of Land and Public Utility Economics, founded by Richard T. Ely and published by him at Northwestern University since 1925, has been transferred to the University of Wisconsin.

Because so many of its subscribers were on the continent of Europe before the war, the *Review of Economic Studies* finds it necessary to replace them with American subscribers if the continuance of the publication is to be assured. Subscriptions can be paid in dollars at $2.00 a year. Checks should be sent to Paul M. Sweezy, 10 Forest Street, Cambridge, Massachusetts.

The American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia, now offers student memberships at $3.00 a year instead of the regular dues of $5.00 a year. The only requirement is that the student indicate the name of the educational institution at which he is enrolled. Since student memberships were first offered in the summer of 1940, about 275 students have joined. A number of persons have given memberships to students in whom they are interested or have made gifts, leaving to the Academy the designation of the students.

The Bureau of Business and Economic Research at the University of California offers qualified graduate students an opportunity to be appointed research assistants at an annual stipend of $750. These assistantships are designed to provide personnel for the Bureau and to assist graduate students to pursue their studies in economics. Those interested should write fully about their age, academic qualifications and major lines of interest to the Bureau of Business and Economic Research, Room 204 South Hall, University of California, Berkeley, California.

Appointments and Resignations

Beatrice Aitchison resigned her position at the University of Oregon on January 1 to become an associate economic and statistical analyst for the Interstate Commerce Commission.

Dorothy Bacon, professor of economics at Smith College, is on indefinite leave of absence while working for the Office of Price Administration in Washington, D.C.

William E. Bade, formerly of the University of Wisconsin, has been reappointed a Tax Foundation-New York University Fellow for the year 1942-43.

Claude D. Baldwin has accepted a position as associate economist with the rent section of the Office of Price Administration, Washington.

Lillian P. Barnes is now an assistant economist in the Division of Research and Statistics of the Treasury Department, Washington, and is engaged in conducting research on bonds and other Treasury obligations.

Robert D. W. Bartels of the College of Economics and Business, University of Washington, has been granted leave for the winter and spring quarters of 1942 to accept an appointment in the War Production Board, Washington, D.C.

Nathan M. Becker of the University of Toledo has been granted a leave of absence

for the year to serve as economist with the Far Eastern Section of the Office of the Coördinator of Information, Washington, D.C.

David E. Bell has been appointed a teaching fellow and tutor in economics at Harvard University for the year 1941-42.

A. T. Bonnell, who spent last year in France with the Friends Relief Service, has returned to the University of North Carolina.

Roy J. Bullock has been given leave of absence by the Johns Hopkins University and has been appointed principal business analyst with the chemicals section of the Office of Price Administration in Washington.

Benjamin F. Brook, professor of economics in the College of Business Administration of Butler University, has been granted leave of absence to take a position as liaison officer with the Civil Service Commission in Washington.

Norman S. Buchanan, associate professor of economics at the University of California, has been granted a leave of absence for the spring semester to accept a position as regional price executive in the Office of Price Administration, San Francisco.

Mrs. Philip Burnett has been appointed instructor in the department of economics at Vassar College for the second semester of 1941-42.

Grant H. Calder, instructor of economics at the University of Utah for the past two years, has been appointed secretary to LeRoy E. Cowles, president of the University.

Reynold E. Carlson has been given leave of absence by the Johns Hopkins University in order to serve as economist with the Office of Price Administration, Washington.

H. Peter Carstensen, instructor in commerce at the University of Pittsburgh, has resigned to accept a position in the Navy Department at Washington.

Wayne F. Caskey, formerly an economist with the Social Security Board, has joined the staff of the Consumers' Division, Office of Price Administration, as senior economist.

B. F. Catherwood has been appointed instructor in economics at Purdue University.

H. B. Cooley, assistant professor of economics and business administration at West Virginia University, has been appointed a member of the Planning Committee of the Interstate Commission on the Potomac River Basin by Herbert R. O'Conor, governor of Maryland and chairman of the Commission. Mr. Cooley is also secretary-engineer of the West Virginia State Planning Board, having been appointed to this position in June, 1941.

Herbert J. Cummings, instructor in accounting and economics at the University of Pittsburgh, has resigned to accept a position in the State Department, Washington, D.C.

Fred M. Dannenberg, research associate at the School of Commerce, Accounts and Finance, New York University, is on leave of absence to work with the War Production Board for the duration of the war emergency.

Paul T. David, associate director and chief economist of the American Youth Commission of the American Council on Education, has devoted his time recently to drafting the Commission's general report which was published in January.

Frederick S. Deibler will become professor of economics emeritus at Northwestern University at the end of the academic year.

James L. Dohr of Columbia University School of Business has been granted a part-time leave of absence so that he may direct the research program of the American Institute of Accountants.

Nicholas Doman, formerly of the University of Chicago, has been appointed acting assistant professor of economics and government at the College of William and Mary.

Joshua Domashevitsky, formerly a teaching fellow in mathematics at the University of Michigan, has been appointed teaching fellow in economics at Harvard University for the year 1941-42.

William Duffus of Ohio State University is serving while on leave of absence as a business analyst for the Committee on Economic Warfare, Washington, D.C.

Julian S. Duncan of the Babson Institute of Business Administration has gone to

Brazil where he will be stationed at the United States Consulate-General in Sao Paulo, doing economic research for the State Department.

Kurt Ehlers, formerly on the staff of the University of the Philippines, is acting assistant professor of economics at Indiana University.

J. G. Evans has been given a leave of absence from the University of North Carolina to accept a position as economist with the War Production Board, Washington, D.C.

Homer H. Fields of the University of Illinois has been appointed acting instructor of economics at the State College of Washington.

Lyle C. Fitch has resigned from the department of accounting of the City College of New York and has accepted a position in the department of economics of Columbia College, Columbia University.

E. A. Gilmore, Jr., is on leave from the University of Nebraska to serve as senior economic analyst in the United States Embassy at Montevideo, Uruguay.

Bernard F. Haley of the department of economics, Stanford University, has been appointed chairman of the Pacific Coast Regional Committee of the Social Science Research Council.

Morrison Handsaker has been appointed acting chairman of the department of economics and sociology at Occidental College while John Parke Young, chairman, is serving in Washington, D.C.

Walter K. Handy, Jr., is now an associate fiscal analyst with the Treasury Department, Washington.

Whitney Hanks, who has held a fellowship for the past three years at the University of California, has been appointed instructor of economics at the University of Utah.

Wesley Haraldsen has accepted a position as research instructor in the Employment Stabilization Research Institute of the University of Minnesota.

Hubert F. Havlik has been given a leave of absence by Columbia University and is now working with the civilian supply section of the War Production Board, Washington.

Tyler F. Haygood, formerly of West Virginia University, is now senior taxation economist in the Tax Inquiry Division, U. S. Forest Service, Washington, D.C.

Myron Heidingsfield, formerly with Columbia University and New York University, has been appointed assistant professor of economics and business administration at the College of William and Mary. He will also continue as consultant statistician and research methodologist to the post-war planning project, Survey of Research in Recreation, being conducted by the federal government.

Herbert Heneman, Jr., has been appointed research instructor in the Employment Stabilization Research Institute at the University of Minnesota.

H. E. Hoagland of Ohio State University is devoting the majority of his time during the present year to service as chairman of the University Committee on War Activities.

John A. Hogan, formerly part-time lecturer on economics at Tufts College in 1940-41, is a teaching fellow and tutor in economics at Harvard University for the year 1941-42.

Eliot Jones of Stanford University will teach courses in public utilities and transportation in the University of New Mexico summer session in 1942.

Harold Kelso has resigned as instructor in economics at Miami University and is now an economist with the Board of Investigation and Research, Washington, D.C.

Joseph A. Kershaw has resigned as assistant professor of economics at Hofstra College to accept a position as economist with the price analysis division of the Bureau of Labor Statistics, Washington, D.C.

Harold J. King, instructor in accounting at the University of Pittsburgh, has resigned to accept a position in the Navy Department at Washington, D.C.

Melvin M. Knight, professor of economics at the University of California, is on sabbatical leave of absence for the spring semester of 1942.

John Loftus has been appointed to teach at the Johns Hopkins University for the second semester of 1941-42.

Theodore F. Marburg has been granted a leave of absence by the University of Nebraska and has accepted a position with the Post-War Division of the Bureau of Labor Statistics, Washington.

Charles F. Marsh, professor of economics and business administration at the College of William and Mary, has been granted leave of absence to serve as principal economist in charge of a study of public aids to motor vehicle transportation for the Board of Investigation and Research, Washington, D.C.

William E. Mason, formerly at Multnomah College, has joined the faculty of the College of Economics and Business of the University of Washington for the winter and spring quarters of 1942.

Gerald J. Matchett has been granted leave of absence from Indiana University to accept a research position with the Department of Commerce, Washington, D.C.

G. Roger Mayhill, instructor in history and economics at Purdue University, has been granted a leave of absence for the second semester of 1941-42.

William G. McCarroll has been appointed instructor in economics at Indiana University.

J. M. McDaniel, Jr., of the economics department of Dartmouth College, has been appointed economic consultant to the National Resources Planning Board for the New England region and will divide his time between the college and the board.

Carl McGuire, formerly an instructor at DePauw University, has joined the teaching staff of the social science department of the University of Colorado.

Raymond F. Mikesell of the University of Washington College of Economics and Business has received an appointment in the Office of Price Administration, Washington, D.C., and has been granted leave for the remainder of the academic year.

Taulman A. Miller is on leave of absence from Indiana University in order to complete a study of the effects of the experience rating provisions of the Indiana Employment Security act.

H. B. Moore is on leave from the University of Kentucky and has accepted a position as regional price economist, Bureau of Labor Statistics, in charge of the Chicago regional office which coöperates with the Office of Price Administration.

Aurelius Morgner, formerly of the University of California and more recently associated with the Wage and Hour Division in its Kansas City office, has accepted a position as research instructor at the University of Minnesota, where he is working with the Employment Stabilization Research Institute.

Eugene Myears, instructor in economics at the University of Pittsburgh, has resigned to accept a position with the Office of Price Administration, Washington, D.C.

James C. Nelson has joined the staff of the Board of Investigation and Research, established by the Transportation act of 1940, as principal economist in the section of special studies.

H. C. Nolen of Ohio State University is teaching courses in management at the University of North Carolina during the winter quarter.

Eugene E. Oakes has been granted a leave of absence from Yale University to join the staff of the Division of Tax Research of the Treasury Department, Washington, D.C.

John E. Orchard of the Columbia University School of Business is on leave for the academic year 1942-43, and is now serving as assistant administrator of the Lease-Lend Administration.

Tom Jones Parry, vice president of the West Coast Sales Co., has been appointed part-time lecturer of marketing at the University of Washington for the winter quarter of 1942.

Millard Peck has transferred from the Division of Land Economics of the Bureau of Agricultural Economics to the Economic Defense Board, Washington, D.C.

John A. Pfanner, Jr., has been granted a leave of absence by the University of Nebraska to accept a position with the Office of Price Administration, Washington.

A. F. W. Plumptre of the University of Toronto has been granted leave of absence for

the duration of the war to act as representative in Washington of the Wartime Prices and Trade Board.

Kenyon E. Poole, assistant professor of economics at Brown University, has been granted a leave of absence to accept a position in the Division of Tax Research of the Treasury Department, Washington, D.C.

Alan Post, formerly at Princeton University, is acting as a full-time instructor in economics at Occidental College during the second semester of 1942-43.

Lloyd G. Reynolds has been appointed regional price executive for Philadelphia and Baltimore, with the Office of Price Administration.

Catherine G. Ruggles has been promoted from the rank of instructor to that of assistant professor of economics at the University of Illinois.

Richard F. Ruggles has been appointed a teaching fellow in economics at Harvard University for the year 1941-42.

Caleb A. Smith has been appointed a teaching fellow in economics at Harvard University for 1941-42.

Hampton K. Snell, associate professor of transportation at the University of Southern California, has been granted a leave of absence to become senior transportation economist with the Board of Investigation and Research, Washington, D.C. He was recently elected for a third time secretary-treasurer of the Pacific Coast Economic Association.

Myron J. Spencer has been appointed a teaching fellow and tutor in economics at Harvard University for the year 1941-42.

David Kenneth Spiegel has been appointed instructor in economics and business administration at the University of Delaware.

Ernst W. Swanson, associate professor of business administration at the State College of Washington, is on leave of absence and is serving as economist in the Finance Section of the Bureau of the Budget, Washington, D.C.

Albion G. Taylor has been advanced from assistant dean to dean of the Marshall-Wythe School of Government and Citizenship at the College of William and Mary.

John V. Van Sickle assumed the chairmanship of the department of economics of Vanderbilt University at the beginning of the academic year 1941-42.

Harry Venneman has resigned his position as chief of the reference and review section, Bureau of Research and Statistics, Social Security Board, to accept an appointment as administrative analyst, Division of Administrative Management, Bureau of the Budget, Washington, D.C.

John J. Walsh has been made instructor in economics at the Catholic University of America.

Dilworth Walker, professor of economics at the University of Utah since 1928, was appointed dean of the School of Business, University of Utah, in December. He had been named acting dean following the retirement in June of Dean Thomas A. Beal.

Lauren Walker has been appointed an associate in accounting at the University of Washington.

W. Allen Wallis, on leave for the autumn quarter from the department of economics, Stanford University, is a research associate on the staff of the National Bureau of Economic Research, New York City.

Weldon Welfling of Duke University will be on leave during the second semester of 1941-42 to serve as senior economist in the coke and pig iron section of the Office of Price Administration.

W. S. Woytinsky resigned from the staff of the Committee on Social Security of the Social Science Research Council on January 1, to become principal economic consultant of the Social Security Board, attached to the Bureau of Research and Statistics, Washington, D.C.

John Parke Young, chairman of the department of economics at Occidental College, is in Washington for the duration of the war to head a group of economic advisers on

Latin American economic problems and policies who are assisting Vice President Wallace and other officials.

Erich W. Zimmermann has resigned as Kenan professor of economics at the University of North Carolina to accept the position of graduate professor of resources at the School of Business Administration, University of Texas, beginning September.

George W. Zinke, who has been an instructor in economics at Occidental College, has left to take a position as associate economist with the U. S. Tariff Commission, Washington, D.C.

HENRY CARTER ADAMS

Fourth President of the American Economic Association, 1896-97

Born in Iowa, December 31, 1851; died at Ann Arbor, Michigan, August 11, 1921. Because of delicate health he was tutored by his father rather than receiving formal schooling, until he was nineteen years of age. He then went to college; was graduated from Grinnell College in 1874. After a year at Andover Seminary, he went to Johns Hopkins University, where he studied history and economics on a fellowship, and within two years received the first Ph.D. degree conferred by that University. Thereafter he studied in Europe, and upon his return in 1879, was appointed to a lectureship in economics at Cornell University. Later he received a similar appointment at Michigan and in 1887 accepted a full-time position at that University, where he remained head of the department until his death.

Also in 1887, he was chosen statistician to the Interstate Commerce Commission, serving until 1911, and was thus led to give a large part of his energy to problems of public control, especially as regards transportation. In this field he rendered signal service, both administrative and theoretical. He served also as chief of the Transportation Division of the Eleventh Census, and spent two years in China as adviser to the government regarding railways and finance. His principal books, aside from his writings on transportation, are *Public Debts, an Essay in the Science of Finance* (1887); *The Science of Finance, an Investigation of Public Revenues and Public Expenditures* (1898); and a brief treatise on general economics called *Description of Industry* (1918). He also published many shorter studies, some of which had a wide influence, especially his memorable essay, *The State in Relation to Industrial Action*, contributed to the Publications of the American Economic Association in 1887.

A memorial to President Adams, together with an early portrait, is found in the September number of the *American Economic Review*, 1922, pages 401-16.

Henry C. Adams.

The American Economic Review

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WAR FINANCE AND INFLATION[1]

By WILLIAM FELLNER

The avoidance of inflation should be regarded as one of the main objectives of a reasonable war financing policy. The distribution of burdens is highly inequitable under inflation; and it becomes increasingly difficult to prevent the leaking out of scarce resources from the war sector of the economy.

The main conclusion of the present article can be expressed in a few sentences: The tax revenue contemplated in the January Budget Message should be increased significantly, if inflation is to be avoided. Price control and rationing are inadequate substitutes for anti-inflationary fiscal policies. Direct controls can be expected to forestall inflation only if the pressure against which they have to operate is held within rather narrow limits; and only in this event can we hope that the task of post-war reconstruction will not be seriously aggravated by the aftermath of *war finance*.

In the subsequent pages we shall first attempt to sketch some of the main features of American economic development since the outbreak of the war in Europe; and then we shall turn to the problem of financing the future war burden.[2]

Production and Prices—Summer of 1939 to Summer of 1941

Comparisons of "real" magnitudes for different periods are subject to well-known qualifications. While one keeps these in mind, the statement may nevertheless be risked that at the outbreak of the war in

[1] This article results from a study which is being carried on for the Bureau of Business and Economic Research, University of California. The author is indebted to Mr. Lawrence Klein and Mrs. Virginia Galbraith Tauchar for valuable research assistance.

[2] As to the recent literature on problems of American defense financing, *cf.* A. G. Hart, E. D. Allen and collaborators, *Paying for Defense* (Philadelphia, Blakiston, 1941); S. E. Harris, *The Economics of American Defense* (New York, Norton, 1941); H. W. Spiegel, *The Economics of Total War* (New York, Appleton-Century, 1942); E. Stein and J. Backman, *War Economics* (New York, Farrar and Rinehart, 1942); J. P. Wernette, "Financing the Defense Program," *Am. Econ. Rev.*, Vol. XXXI (Dec., 1941), pp. 754-66; *Financing the War* (Philadelphia, Univ. of Pennsylvania, 1942).

Europe both the real output flow of the American economy and its aggregate real capital stock were roughly at their 1929 levels.[3] Yet excess capacities (especially in the durable goods industries)[4] and unemployment of labor obviously were much higher in 1939 than in the late twenties. This made it possible to expand real output quite significantly at a price level that for one and a half years remained more or less stable.

Table I shows the percentage rise in aggregate industrial output and in certain of its constituents from the summer of 1939 to the summer of 1941.[5] As is obvious, the rate of increase was the highest in some of the typical "defense industries." No sharp distinction between defense and nondefense industries can be drawn, of course.

TABLE I—PERCENTAGE RISE IN INDUSTRIAL PRODUCTION AND IN SOME OF ITS CONSTITUENTS[a]

Classification	Aug. 1939–Aug. 1940	Aug. 1940–Aug. 1941	Aug. 1939–Aug. 1941
Industrial production, total	17.0	30.6	52.8
Manufactures, total	15.7	33.6	54.6
Aircraft	142.1	142.0	485.8
Shipbuilding	60.3	140.1	284.9
Locomotives	20.4	146.8	197.1
Iron and steel	43.6	17.1	68.2
Automobiles	26.4	31.9	66.7
Furniture	7.3	33.1	42.7
Textiles and products	1.8	38.7	41.3
Manufactured food products	3.1	16.0	19.7
Lumber	8.6	17.5	27.6

[a] Derived from data published in the *Federal Reserve Bulletin*.

Nevertheless it can be seen from production figures that the rise was not confined to defense industries in the narrower sense. Table I also reflects the circumstance that the rate of increase was much greater in the second of the two 12-month periods than in the first. Steel is a notable exception. As a consequence of the full utilization of existing production facilities and of a scrap shortage, the rate of increase in steel production slowed down in the second year of the war.

The fact that not merely defense production but also consumption

[3] As to real output, this conclusion is reached by deflating money income figures. As to real capital stock, the Kuznets estimates indicate that the capital consumption of the depression was not offset by the net capital formation of the recovery until somewhere in 1937.

[4] While in 1939 industrial production as a whole was at its 1929 level, the output of the durable goods industries was about 17 per cent lower and the output of the other industries, of course, correspondingly higher.

[5] The Federal Reserve Board's index for industrial production includes manufactures and minerals.

has risen substantially can perhaps be better seen from Table II. Department store sales, grocery chain store sales, and rural sales of general merchandise have increased significantly in the course of these two years. Here, too, the rise from the summer of 1940 to the summer of 1941 was much in excess of the rise occurring in the preceding twelve months.

TABLE II—PERCENTAGE RISE IN SALES TO CONSUMERS[a]

Outlets for Sales	Aug. 1939–Aug. 1940	Aug. 1940–Aug. 1941	Aug. 1939–Aug. 1941
Department store	10.1	36.7	50.5
Grocery chain store	11.2	24.4	38.3
Rural sales of general merchandise	11.3	42.9	59.1

[a] Derived from data published in the *Survey of Current Business.*

TABLE III—PERCENTAGE RISE IN THE COST OF LIVING AND IN SOME OF ITS CONSTITUENTS[a]

Expenditures	June 1939–June 1940	June 1940–June 1941	June 1939–June 1941
Cost of living (over-all index)	1.9	4.1	6.0
Food	5.0	7.7	13.1
Clothing	1.4	1.6	3.0
Rent	0.3	1.1	1.4

[a] Derived from data published in the *Survey of Current Business* (Bureau of Labor Statistics Index).

The figures of Table II are value figures and hence they are affected by the rise of retail prices. Comparison of Table II with Table III indicates, however, that the rise in retail sales must have been substantially greater than the increase in retail prices.[6]

The rise in the general level of both wholesale and retail prices was slight in the first of the two 12-month periods under consideration. Table IV shows the percentage increase of wholesale prices for both years and also contains data relating to the major constituents of the wholesale price index. A more detailed breakdown would, of course, show that the rise in the prices of some commodities was not negligible in the first 12-month period. Grains, dairy products, paper and pulp might be mentioned in this connection. But it is a legitimate generaliza-

[6] It should be added that the figures relating to the increase in retail sales values for the period lying between August 1940 and August 1941 are obviously affected by the new excise taxes introduced in the fall of 1941. In October, when the new tax rates had already become effective, the excess of department store sales over the same month of 1940 had declined to 11 per cent. Considering, however, that the October figures are relatively depressed by previous anticipatory buying, the October turnover must be considered high.

tion to say that the marked rise of wholesale prices over the two-year period in question is mainly a consequence of the rise in the second year. It will be seen later that the rise in the second period, in turn, was largely a consequence of the rise occurring since *March 1941.*

TABLE IV—PERCENTAGE RISE IN WHOLESALE PRICES[a]

Commodities	Aug. 1939–Aug. 1940	Aug. 1940–Aug. 1941	Aug. 1939–Aug. 1941
Wholesale prices (over-all index)	3.2	16.7	20.4
Finished products	2.4	13.0	15.7
Semi-manufactures	3.4	16.2	20.1
Raw materials	5.0	25.5	31.7
Farm products	7.5	33.2	43.3

[a] Derived from data published in the *Survey of Current Business.*

The rise in hourly earnings of labor, too, was much higher from the summer of 1940 to the summer of 1941 than in the preceding twelve-month period, although the rise of the second period is not in this case concentrated in the last few months of the period. Table V shows the percentage increase of hourly earnings for manufacturing as a whole; and also the percentage increase in nonagricultural employment as a whole. Moreover, Table V contains data as to the rise in the

TABLE V—PERCENTAGE RISE IN EMPLOYMENT, EARNINGS, AND HOURS[a]

Earnings and Hours	Aug. 1939–Aug. 1940	Aug. 1940–Aug. 1941	Aug. 1939–Aug. 1941
Average hourly earnings, manufacturing industries	5.2	11.7	17.5
Total nonagricultural employment	2.9	10.1	13.4
Aggregate labor hours performed, manufacturing industries[b]	9.1	31.8	43.7

[a] Derived from data published in the *Federal Reserve Bulletin.*
[b] *Cf.* footnote 7, below.

aggregate number of labor hours performed in manufacturing industries.[7] These latter data in conjunction with figures relating to the rise in manufacturing production (see Table I) show that a given rise in output was associated with a much smaller rise in labor hours performed in the first twelve-month period than in the second. From the summer of 1939 to the summer of 1940 manufacturing output rose by about 15 per cent and aggregate labor hours performed only by about 9 per cent. In the subsequent twelve months both indexes rose by slightly over 30 per cent.

[7] These figures are derived from the U. S. Bureau of Labor Statistics data for factory employment, on the one hand, and average hours worked per week, on the other hand.

Production and Prices: Trends after February 1941

It was stated above that the rise in the general price level was slight until early in 1941. This is true of the wholesale price level as well as the cost of living. The Bureau of Labor Statistics wholesale price index rose about 6 per cent from the outbreak of the war to January 1940, then declined about 3 per cent up to August 1940, and has risen more or less consistently since that time. But the rise from the level of August 1940 to the level of February 1941 amounted to roughly 4 per cent only, so that the entire increase for the one and a half year period lying between August 1939 and February 1941 is not more than about 7 per cent.

TABLE VI—PERCENTAGE RISE OVER THE PRECEDING MONTH IN WHOLESALE PRICES AND COST OF LIVING[a]

Classification	1941 Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1942 Jan.	Feb.
Wholesale prices	1.1	2.1	2.0	2.6	2.0	1.7	1.7	0.7	0.1	1.2	2.6	0.7
Manufactured products	0.8	1.5	1.9	1.7	1.7	1.6	1.4	1.2	−0.1	0.9	1.9	0.6
Semi-manufactures	2.2	2.0	1.5	1.4	0.3	1.8	0.9	−0.4	−0.2	0.4	1.8	0.3
Raw materials	1.8	2.9	2.8	4.9	3.0	1.7	2.7	−0.3	0.6	2.3	4.1	0.9
Farm products	1.8	3.9	2.7	7.5	4.5	1.9	4.1	−1.1	0.7	4.5	6.4	0.5
Cost of living	0.4	1.0	0.7	1.7	0.7	0.9	1.8	1.2	0.7	0.3	1.3	0.6
Food	0.5	2.2	1.5	3.7	0.8	1.2	2.5	0.8	1.3	0.0	2.7	0.5
Clothing	1.7	0.3	0.4	0.5	1.5	2.0	3.6	1.8	0.9	0.9	0.8	2.6
Rent	0.0	0.3	0.3	0.1	0.3	0.2	0.5	0.7	0.3	0.4	0.2	0.2

[a] Derived from data published in *Survey of Current Business.*

The rise in the cost of living was negligible until March 1941. This index rose about 2 per cent at the outbreak of the war, then declined a trifle and again rose quite slightly. Early in 1941 it stood 2 per cent higher than immediately before the outbreak of the war, and one per cent higher than in the last corresponding pre-war months (*i.e.*, than early in 1939).

Since February 1941 there has been a marked upward trend in both the wholesale and retail price level. Table VI shows the rate of month to month rise for the general level of wholesale prices, for the major constituents of the wholesale price index, for the cost of living and for its constituents after February 1941.

Aggregate industrial production continued to rise at a roughly unchanging rate until June 1941, so that the period March-June 1941 is characterized by a significant rise in aggregate real output as well as in the price level. Yet after June the rise in aggregate industrial production became substantially smaller. As can be seen from Table VII, *the continued rapid expansion of some of the typical defense industries*

TABLE VII—PERCENTAGE RISE OVER THE PRECEDING MONTH IN INDUSTRIAL PRODUCTION AND IN SOME OF ITS CONSTITUENTS[a]

Type of Production	1941 Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1942 Jan.	Feb.
Industrial production, total	2.1	−2.0	6.9	3.2	0.6	0.0	0.6	1.2	1.8	0.6	2.4	1.2
Iron and steel	2.8	−1.6	1.7	0.0	0.5	0.0	3.8	−0.5	0.0	2.6	−2.6	1.0
Aircraft	3.6	6.5	7.1	6.2	7.2	11.6	8.2	7.1	3.9	—[b]	—[b]	—[b]
Locomotives	5.9	9.7	8.0	9.4	9.6	−0.3	4.2	5.0	0.9	—[b]	—[b]	—[b]
Shipbuilding	9.1	5.4	7.9	12.3	9.1	3.9	15.5	13.2	1.7	—[b]	—[b]	—[b]
Automobile bodies, parts and assembly	−0.7	−12.7	22.6	5.9	4.3	−16.1	−5.0	9.0	−2.7	−1.7	3.3	−4.2
Lumber and products	−5.2	3.1	0.0	2.3	4.4	−0.7	−2.9	−0.7	0.0	3.6	4.3	1.4
Textiles and products	2.1	2.7	4.7	−0.6	−0.6	−0.6	−1.9	−0.7	4.0	2.6	3.9	0.6
Rubber products	1.3	1.9	2.5	18.5	−20.3	−15.0	0.8	2.3	—[b]	—[b]	—[b]	—[b]

[a] Derived from data published in the *Federal Reserve Bulletin* (seasonally adjusted).

[b] Not available for separate publication.

after June was accompanied by the cessation of growth and partly by an actual decline in other industries. This obviously is a significant phenomenon. Up to the summer of 1941 the increase in real output extended to practically all fields.

Expansionary Defense Financing

According to our estimates, the supply of money rose by about 13 billion dollars from the summer of 1939 to the summer of 1941.[8] The rate of increase was much larger in the second of the two 12-month periods than in the first. In the second period about 7.5 billion dollars of new money were created. This large increase in the supply of money from 1940 to 1941 was partly a consequence of the fact that the banks bought more than one-half of the newly issued government securities (including the fully guaranteed).[9] This in itself gave rise to about 3.5 billion dollars of new money in the fiscal year ending in June 1941. Furthermore, the banks had expanded their loans to private business by the important amount of 3 billion dollars;[10] and the gold inflow was

[8] We have included demand deposits adjusted; deposits of the U. S. Treasury and of foreign banks in the Federal Reserve banks; and currency outside the Treasury and the banks. The foregoing two types of deposits in the Federal Reserve banks are not usually included in the concept of money, but there is no reason for excluding them since they are drawn upon to make current expenditures.

[9] For the period June 1940 to June 1941, the percentage of new issues going to banks was 51.5 per cent; to insurance companies, 7.3 per cent; to "other investors," 20.4 per cent; to federal agencies and trust funds, 20.5 per cent.

Banks include Federal Reserve banks, member banks, other commercial banks, and mutual savings banks. The holdings of the Federal Reserve banks changed but slightly.

[10] Loans of all banks (millions of dollars): June 30, 1939—$21,318; June 29, 1940—$22,341; June 30, 1941—$25,312. Source: *Federal Reserve Bulletin.*

also associated with the creation of new money. The flow of money spending increased in approximately the same proportion as that in which the stock of money rose. The exchange velocity index of the Federal Reserve Bank of New York declined from 1939 to 1940, and since then has risen slightly, but not beyond its pre-war level. Income velocity seems to have declined slightly from 1939 to 1941, but this decline is so small that, considering the limitations to which the estimates are subject, it seems preferable to say that income velocity has remained approximately constant.[11] The conclusion then would be that money spending has risen in the same proportion as that in which the supply of money has increased. This proportion is roughly one-third if the summer of 1941 is compared with the summer of 1939, and the proportion will not be very different for the calendar year 1941 as compared with the calendar year 1939.

The bulk of the rise in supply of money and in the flow of money spending has occurred in the second, rather than in the first of the two 12-month periods. This second period roughly coincides with the first year of the American defense program. The "defense program," in the technical sense, was started after ten months of war in Europe, during which some amount of monetary and real expansion had already occurred in this country. The fiscal year ending June 1940 which precedes "the first year of the defense program" must really be regarded as the first year of war expansion. The assumption that the war was the prime mover of the American expansion in the course of the fiscal year 1940 can be made plausible with reference to the development of exports,[12] and this assumption becomes even more plausible if account is taken of the fact that the rise in industrial output was at that time already largely concentrated in the typical defense industries.[13] Yet American defense spending was but slightly higher in the fiscal year ending June 1940 than in the fiscal year ending June 1939;[14] and the difference in the government deficit of the two fiscal years was negligible.[15] Consequently, the fiscal year ending June 1941 may be con-

[11] Income velocity for the year 1939 was 1.97; for 1940, 1.88; and for 1941, 1.89. The method used was to divide income payments by the stock of money. All income figures are estimates of the Department of Commerce. Velocity figures based on income produced, rather than income payments, would be almost precisely the same.

[12] For fiscal year ending June 1941, total exports were $3,838,927; exports to Europe were $1,620,482. For the fiscal year ending June 1939, total exports were $2,919,732; exports to Europe were $1,228,429. Total exports were 31.1 per cent higher in fiscal 1940 than in fiscal 1939. Exports to Europe were 32.0 per cent higher. Source: *Survey of Current Business.*

[13] See Table I.

[14] 1.7 billion dollars as against 1.2 billions.

[15] The excess expenditure of the federal government was 3.5 billion dollars in fiscal 1939 and 3.6 billions in fiscal 1940. If this deficit is corrected in the manner to be described later in the text, the figures are 2.1 billions for 1939 and 2.4 billions for 1940.

sidered the first year of the American defense program not merely in the formalistic sense but also in the sense that the specific problems of defense financing first arose in this fiscal year.

The methods of financing the defense program were distinctly expansionary from the outset.[16] The rise in tax revenues and the decline in expenditures other than those on defense[17] was insufficient to provide the funds necessary to finance the rapidly rising defense outlays. Moreover, the gap was too large to be closed by borrowing from the public at that time. These circumstances reflect themselves in the increased government deficit of the fiscal year 1941 and in the fact that the government relied heavily on borrowing from the banks. From the fiscal year 1940 to the fiscal year 1941, the national defense expenditures of the federal government rose from 1.7 billion dollars to 6.1 billions and this was associated with a rise of the crude deficit from *3.6 billions* to *5.1 billions*. These deficit figures should, however, be corrected so as to take account of the receipts and expenditures of the government agencies technically not included in the concept of the federal government. If this correction is undertaken the net figure of *4.7 billion dollars* is obtained for fiscal 1941, *which is almost precisely double the corresponding figure for the previous fiscal year.* This figure expresses the excess expenditure of an aggregate consisting of the "government" plus its agencies.[18] The government, in the foregoing broader sense, has obtained almost two-thirds of its aggregate borrowings from banks.[19]

Inflation Potentialities before and after December 7, 1941

The danger of inflation was imminent in the last stage prior to American belligerency. It was obvious before the attack on Pearl Harbor that the defense program would lead to inflationary phenomena at an increasing rate unless monetary and fiscal policies were changed. Defense spending for the present fiscal year was then estimated at 18 to 19 billion dollars and aggregate federal spending at 24-25 billion dol-

[16] By "expansionary" we mean "leading to an increase in MV." The term is used in this sense by Hart and Allen, *op. cit.*

[17] Mainly unemployment relief.

[18] The "government" plus its agencies, taken as one unit, borrowed 5.4 billion dollars in the course of the fiscal year 1941, the difference between this latter figure and the aggregate excess expenditure (4.7 billions) being explained by the fact that the General Fund Balance of the "government" and of the agencies rose by .7 billion.

[19] As was pointed out in footnote 9 on p. 240, the banks bought 51 per cent of all newly issued government securities (including the fully guaranteed). But they bought almost two-thirds of those newly issued securities which were not bought by federal agencies. If we regard the federal government and its agencies as one unit, then this latter figure expresses the share of the banks.

lars, while tax revenues promised to yield around 12 billions.[20] Consequently, the crude deficit of the federal government was expected to reach 12 to 13 billion dollars. Moreover, the outlays of the government agencies, mainly those of the R.F.C. and of its subsidiaries, were rising rapidly. These agencies play an important part in the financing of defense investment. It was obvious that the corrected deficit of the government in the broader sense would reach in the present fiscal year a multiple of the 4.7 billions of fiscal 1941. Three times this figure did not seem a high estimate at that time. It is true that voluntary lending was also on the increase and, consequently, it was not clear whether borrowing from the banks would have risen very substantially. In the first six months of the present fiscal year, over 4 billion dollars of Defense Savings Bonds and Tax Anticipation Notes have been sold to the public. With these two types of borrowing at an annual rate of 8 to 10 billion dollars, borrowing from the banks would not necessarily have amounted to much more than in fiscal 1941. In spite of this it was clear that the inflation danger had increased. Up to the summer of 1941 practically all industries had expanded. Since that time the rise in defense production was associated with a decline in civilian output. Hence, up to the summer of 1941, the increased flow of purchasing power was directed at an increased flow of real civilian output; since that time, the rising flow of purchasing power has been directed at a shrinking flow of civilian commodities. Consequently, the same increase in the flow of money spending would inevitably have been associated with an increased inflationary pressure. It was safe to conclude already in November 1941 that the danger of inflation would rise, unless tax revenues were increased beyond the then contemplated level.[21]

The inflation danger was aggravated by a further circumstance. The stock of idle deposits obviously rose by a substantial amount during the first two years of the war. This follows from the fact that neither exchange velocity nor income velocity had risen, while the stock of money grew by a little over one-third. Since a significant change in the velocity of the *active* part of the stock of money is unlikely to have occurred, it must be concluded that the new money was divided into active money and idle money in approximately the same proportion as that in which the 1939 stock had consisted of these two constituents.[22] Or, to express the same thing in other words: both the active part and the idle part of the stock of money must have risen by approximately one-

[20] On the grounds of the new tax bill, passed in the fall of 1941.

[21] Bank *loans* might also have increased somewhat more than in the preceding fiscal year. Yet on the other hand the gold inflow has slowed down substantially.

[22] It seems quite likely that the velocity of the active part of the money stock has increased slightly. In this event idle balances must have risen slightly more than proportionately.

third if a rise of the entire money stock by one-third was unaccompanied by a change in the average velocity of the dollar. We know that the stock of idle money was already substantial in 1939. The income velocity of the dollar, for example, was about one-third lower at the outbreak of the war in Europe than in the late twenties.[23] This reflects the high level of idle balances at the time of the outbreak of the war in Europe. The failure of velocity figures to rise during the monetary expansion since 1939 indicates a further substantial rise in the stock of hoards. A general desire to get rid of idle balances would have a significant inflationary effect. It might be pointed out that a rise of the income velocity of the present stock of money to the velocity level of the 1920's would increase the yearly rate of money income by roughly 60 billion dollars.

It is obvious that the gravity of the problem increased significantly after war was declared. This is true even with respect to the present fiscal year. Defense spending for the current fiscal year is now estimated at roughly 28 billion dollars (instead of 18 billions) and aggregate federal expenditures at about 34 billions (instead of 24 billions). Tax revenues for the present fiscal year will apparently not exceed the previously estimated 12 billions and, consequently, the estimated deficit has risen by about 10 billion dollars (to almost 22 billions). This means a higher rate of monetary expansion and also a higher rate of output-curtailment in the civilian sector.

For fiscal 1943 the war expenditures of the federal government and its agencies are estimated at 70 billion dollars and aggregate federal spending at 70 to 75 billions. If the revenue of the federal government (including the planned increase in Social Security contributions) will be raised merely to about 27 billions, as is now contemplated, an enormous rise of the monetary pressure seems inevitable. A large portion of the roughly 45 billion dollars of borrowing would undoubtedly have to be of an inflationary character.

The Ideal Degree of Taxation

It is suggested in these pages that the rate of taxation be increased substantially beyond the now contemplated level.

The notion that rationing and price control might be used *instead* of appropriate fiscal policies is an unfortunate one for several reasons. First, it should be pointed out that, with the monetary pressure rising rapidly, the enforcement of rationing and price control would require a very substantial and costly effort on the part of the authorities. In

[23] See James W. Angell, *Investment and Business Cycles* (New York, McGraw-Hill, 1941). See mainly, chap. 9, and Appendix II.

fact, if the pressure grows significantly, it is unlikely that the effort would be successful. Second, there is general agreement in democracies as to the desirability of keeping policing activities down to that minimum which is indispensable for wartime efficiency. This implies that it is preferable to reach a given objective by methods which do not require policing rather than by methods which do. Narrowing the flow of money income is superior in this respect to price control and rationing. Third, it should be emphasized that it is undesirable to create conditions which automatically give rise to a cumulative upward movement of prices as soon as measures of control are relaxed. In order to realize this, it is important to draw a line between the immediate post-war "short run" and the subsequent period. In certain stages of post-war readjustment it will be necessary to maintain the flow of money income by measures of public policy. Expansionary effects will then be welcome. But in the immediate post-war short run, there presumably will be a strong tendency for re-stocking. Even if it should prove to be true that very severe regimentation enforced by efficient policing agencies could prevent an inflationary spiral for the time being, a failure to keep money income down would strongly accentuate the inflationary phenomena of the post-war short run and would unnecessarily deepen the subsequent depression.

As we shall see later, this does not mean that price control and rationing should be omitted. We merely believe that *measures directed at the aggregate income stream should provide the basic structure of a reasonable anti-inflation policy.*

By measures directed at the aggregate income stream, we mean taxation and borrowing from the public. Neither of these two measures can be directed exclusively at the current income stream, since the public may reduce its hoards or increase its borrowings from the banks when buying government securities or when paying taxes. This is a qualification which must be kept in mind and to which we shall return presently. The necessity of combining taxation with price control and rationing is largely a consequence of this potentiality. For the moment, however, we may view taxation as well as borrowing from the public as measures directed mainly at the current income stream. We may also regard compulsory loans as a form of taxation which will be refunded. Let us therefore at first distinguish taxation and compulsory loans, on the one hand, from voluntary loans subscribed to by the public, on the other; and let us view these two types of war finance as being directed mainly at the current income stream.

At the present income level,[24] it would presumably be possible to

[24] By the "present yearly rate of income," we mean a rate of about 100 to 110 billion dollars. The present level of taxation means the level obtaining in fiscal 1942.

finance a *moderately heavy* war burden largely by voluntary loans. But it will be argued that the share of voluntary lending in the non-inflationary financing of a *very heavy* war burden would have to become small. The point here is not merely that a very heavy burden is greater than a moderately heavy burden. More important is the fact that heavy taxation is bound to reduce those funds which otherwise would be lent to the government.

At the present income level it would be unreasonable to expect more than 15 to 20 billion dollars of net voluntary savings; or, if some degree of capital consumption is imposed upon the economy, more than 20 to 25 billions of gross savings.[25] More could be expected only on the assumption that the government enforces all-around price control and rationing against an increasing monetary pressure and thereby successfully imposes upon the public a higher rate of saving. A policy aimed at avoiding the monetary pressure in question should, of course, not be based on this assumption. Now, at the present level of income and of taxation 35 billion dollars (12 billions revenue at present rates and the rest voluntary lending "out of current gross income") would be quite insufficient to provide the funds required for the armament program. This would be 30 to 35 per cent of national income instead of the required 60 per cent.[26] If, however, the tax revenue must be increased substantially, then the amount to be raised by voluntary loans out of savings is bound to shrink. The degree of taxation necessary to bridge most of the gap corresponding to 25 to 30 per cent of national income would eliminate individual saving.[27]

The emphasis of a consistent anti-inflation program should be placed on taxation. An efficient tax policy should be supplemented by security sales, but once the degree of taxation becomes sufficient we cannot expect voluntary lending to amount to a high share of aggregate expenditure. Or rather voluntary lending could in these circumstances be substantial only if it is undertaken by means of depleting idle cash balances, in which event it fails of its purpose as a method of non-inflationary financing.

The taxation program should take account of two main points of view. The distribution of burdens is one of these and the specific character of the commodity shortages the other. The first point of view calls clearly for income taxation since income taxes can be made progressive.

[25] Various estimates lead to the conclusion that the annual depreciation of the present stock of durable producers' goods and buildings slightly exceeds 10 billion dollars.

[26] Under the most recent scheme, total expenditures of the Treasury would correspond to about 60 per cent of the national income.

[27] Moreover, in the absence of direct consumers' controls, the saving ratio would tend to decline even at present tax rates, since consumers' real income, in the here relevant sense, will be made to decline.

The second point of view calls for supplementing income taxation by excise taxes on specific commodities. The specific commodity shortages will undoubtedly be created by direct government allocation, that is, essentially by commandeering. As it becomes necessary to shift more resources from civilian production into the armament industries, the government will continue to allocate the resources in question to the enterprises producing for defense. The shortage in a great number of civilian commodities will be and already is a direct consequence of these measures falling in the category of commandeering. But a reasonable taxation program should take account of the specific character of these shortages since otherwise the demand would exceed the supply of certain commodities at all prices except tremendously high ones. In other words, at practically all levels of income taxation there will be a high upward pressure on the prices of certain highly scarce commodities. It is probable that these prices will rise, even though the government does attempt to keep them down by direct control and policing. For durable commodities of high scarcity, the second-hand markets will become the really important ones, and it is very unlikely that prices on these markets could be kept at present levels by direct control. It would be desirable to utilize this rise in prices for the purposes of the armament program by the means of excise taxes and thereby to tax away amounts which otherwise would go into windfall profits. Price fixing will be more effective if it occurs at higher levels, at which the excess of demand over supply is smaller. It is impossible to estimate with any degree of accuracy the yield of excise taxes on the assumption that additional excise taxation is applied only to tax away otherwise inevitable price increments in fields of high scarcity. At the present level of taxation the aggregate yield of excise taxes may be estimated at somewhat less than 3 billion dollars[28] and the assumption would seem reasonable that this yield could be approximately doubled at the present income level. It would, of course, be possible to raise the yield of excise taxes much beyond this level in case taxes were imposed upon necessities for which the demand is notoriously inelastic. But from the social point of view, this is no desirable method of financing a war burden. Excise taxation requires specific justification owing to its nonprogressive character. It can be justified with respect to luxuries and more or less "harmful" commodities, and it can be justified in those cases dis-

[28] The "present level" does not yet include the new proposals of the Treasury submitted in March 1942. The yield of excises in the fiscal year 1941 amounted to 2.4 billion dollars. In the October 1941 issue of the *Survey of Current Business,* the yield of the additional excise taxes which became effective October 1, 1941, is estimated at about .5 billion. For an entire year the addition would, of course, be higher than for the period October 1-June 30. Yet the substantial curtailment of the consumption of numerous taxed items will be a factor tending to reduce yields. The proposals submitted in March 1942 are expected to increase the total yield by 1.3 billion dollars.

cussed above where the tax may be expected to have mainly the effect of utilizing for the Treasury an inevitable rise of prices. The excise taxes imposed on highly scarce commodities would, of course, not yield much if merely newly produced commodities were taxed. Extension of excise taxation to used markets might raise the yield, but it is obvious that if high excise taxes are applied only in the cases discussed here, but a small share of the aggregate war expenditures could be raised from this source.

It follows from these considerations that the bulk of the burden should be raised by income taxation. It is obvious from the outset that personal income taxes can be made to yield much more than corporate income taxes and it will be seen presently that it would not be advisable to increase even the *rate* of corporate income taxation to the level of personal income taxation. In case the significance of voluntary lending "out of current income" is substantially reduced—and this is bound to happen if taxation becomes very heavy—it would be desirable to raise an amount corresponding to about 35 per cent of the national income by personal income taxation.

We have no means of calculating precisely the burden falling upon the single income brackets. The following might, however, be a rough way of obtaining an idea of the general orders of magnitude involved in such taxation. The National Resources Committee has estimated the distribution of income for the period July 1935 through June 1936; and also gave estimates, based on specific assumptions, of income distribution for higher levels of aggregate income.[29] To raise 35 per cent of personal incomes, on the basis of the distribution there estimated for an 80-billion dollar income level,[30] would require roughly the following. Assuming that families *of average size* with incomes of less than $1,000 should be exempt and that the rate at which $1,500 incomes are taxed should not exceed 15 per cent, the effective rate would have to amount, for consumer units with the average number of dependents, to about 30 per cent on incomes of around $3,000, to about 40 per cent on incomes of around $4,000, to about 50 per cent on incomes around $6,000, to about 60 per cent on incomes around $10,000. The *average* rate of taxation on incomes of more than $20,000 would have to come close to 90 per cent.[31] By saying that these would have to be the effective rates,

[29] *Consumer Incomes in the United States,* National Resources Committee, 1938. *Cf.* also *Consumer Expenditures in the United States,* N.R.C., 1939, secs. 3-5.

[30] We are using those estimates which imply for 80 billion dollars the same proportionate distribution as has existed for 60 billions.

[31] Using the National Resources Committee's estimates for an 80-billion dollar income level, it is easy to convince oneself of the fact that a scale of the above character would raise about 35 per cent of the Committee's "total." (*Cf. Consumer Expenditures,* 1939, p. 190, under heading "same proportionate distribution as in 1935-36.") To reproduce the calculation would require more space than is at our disposal.

we mean that the tax rates would have to be such as to make the actual tax payments correspond to the percentages indicated above. The exemption of low incomes would obviously require that the nonexempt portions of incomes be taxed at correspondingly higher rates.

There is a presumption on the one hand, that a tax structure, yielding about 35 per cent of an 80-billion dollar income on the basis of the National Resources Committee's estimates, would yield a *higher portion* of a 100- to 110-billion dollar income (probably close to 40 per cent).[32] This is true because the recent increase in national income was undoubtedly associated with a rise in the average income level so that at present a larger share of aggregate income is earned by relatively higher income groups. Understatements of income and evasions of various kinds make it necessary, on the other hand, to undertake a rather substantial *downward correction.* In fact, the National Resources Committee used, among other sources, the income tax returns in estimating the income flowing to the higher brackets and has raised the resulting share of these brackets quite substantially for nonreporting and understatement. Aside from the question of evasions, it should be remembered that certain constituents of aggregate income are not subject to individual income taxation. The war burden, when related to income, is usually expressed in percentages of national income produced. Some constitutents of income produced (such as, for example, corporate savings and non-cash income) do not enter into the individual income tax base. Hart and Allen have estimated[33] that, at a 90-billion dollar income level, these reducing factors[34] might curtail the income base by roughly 15 per cent of total income. Moreover, increased corporate taxation and, conceivably, the limitation of dividend payments would somewhat diminish the share of the higher brackets in aggregate individual income payments. It might, therefore, be assumed that a tax structure of roughly the character sketched above would be capable of yielding close to 35 per cent of the increased national income.[35]

[32] A scale yielding 35 per cent of 80 billion dollars would yield 40 per cent of 104 billions on the assumption that about 60 per cent of the rise goes to the Treasury. The scale of the text would probably tax away around 60 per cent of the increase.

[33] *Cf. op. cit.*, p. 147.

[34] Reducing factors other than personal exemptions; and other than the earned income credit, which presumably will be dropped.

[35] This is another way of saying that, *from the point of view of this percentage figure,* the upward correction for increased income might, roughly speaking, cancel out with the downward corrections for evasions and nontaxables. On the assumption of footnote 32, above, the downward correction would outweigh the upward correction from the point of view of the percentage figure if the Hart-Allen estimate regarding nontaxables and evasions is correct and if the average nontaxable and concealed income belongs in a bracket for which the marginal rate of our scale is about 70 per cent. On these assumptions, which seem reasonable, the 35 per cent would decline to 30 per cent. Yet if, in the future, money income would be rising at the rate of increase of real output, this percentage figure

The ultimate (long-run) distribution of burdens could be made even more progressive by applying some version of the Keynes plan to the lower income brackets. The use in this connection of the administrative structure of the Social Security system has repeatedly been suggested.

Considering what has been said above about excise taxes, it is likely that this kind of taxation could be made to yield roughly 5 per cent of total income without exceeding the limits appearing as "justified" on previously discussed criteria. Furthermore, corporate income taxes plus borrowing from current corporate earnings could probably be made to contribute 10 to 12 per cent of national income;[36] and such borrowing as is offset by capital consumption in the civilian sector of the economy, to contribute an amount corresponding to another 5 per cent. Hence the aggregate revenue of the Treasury plus borrowing out of current gross income could reach a level corresponding to about 55 per cent of income.[37] Taking account of the fact that war spending and the other expenditures of the Treasury will require 60 per cent, a residual amounting to about 5 per cent of income would have to be borrowed from banks.[38] Hence, the supply of money would be rising at an

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would also be rising somewhat. A comparison of figures derived by the crude method sketched in the text with Treasury estimates as to the yield of specific tax scales would seem to indicate that the method does provide some information regarding rough orders of magnitude.

[36] Corporate profits, net of intercorporate dividends, amounted to roughly 10 to 11 per cent of national income in the recent past. (See Hart-Allen, *op. cit.*, chap. 12) There is a strong presumption that they correspond to a higher proportion at present. Assuming this proportion to be 14 to 15 per cent and assuming legislation which would limit dividend payments, a fund amounting to 10 to 12 per cent might become available for taxation plus borrowing. If, say, the average effective tax rate would be raised to 60 per cent of the corporate earnings, these taxes would yield about 9 per cent national income and borrowing conceivably about 3 per cent.

For the fiscal year 1942 the yield of corporate income taxes, including the excess profits tax, may be estimated at roughly 4 billion dollars. This figure is derived from 1941 yields, on the one hand, and estimates relating to the additional yield of recently increased tax rates, on the other. (See *Survey of Current Business,* October, 1941.)

[37] Items of revenue, other than mentioned above, are of negligible order of magnitude.

[38] It would be important to eliminate excess reserves by raising reserve requirements. At present the government is forced to rely heavily on borrowing from the banks and it could rely *to a small extent* on this type of borrowing even if a scheme were adopted which would successfully avoid "inflationary phenomena." Yet, on purely rational grounds, it would seem preferable to sell government securities to the *Federal Reserve banks,* rather than to commercial banks. The latter procedure, as opposed to the former, presupposes the existence of excess reserves and, hence, leaves a door open for *further* monetary expansion *via* an increase in loans to private business and to individuals. It should not be overlooked, however, that the spending of funds borrowed from the Federal Reserve banks leads to the formation of further excess reserves, unless reserve requirements are continuously adjusted (or so changed as to take care of this in advance). Furthermore, irrational factors should also not be overlooked. Direct borrowing from the Federal Reserve banks would open a very easy channel for inflationary borrowing; and it is conceivable that the incentive to raise funds by taxation, rather than borrowing, would thereby be weakened.

annual rate of about 10 per cent.[39] This would produce no "inflationary pressure." Aggregate real output must also be expected to rise slowly.[40]

In connection with corporate income taxes we should like to point to the following. If corporate income taxes are compared with personal income taxes, then, for obvious reasons, it is found that relatively lower corporate income tax rates for the various income brackets will yield a relatively higher portion of aggregate corporate income. This is a consequence of the more top-heavy distribution of corporate incomes. Corporate income taxes, including the excess profits tax, should of course be made to yield a considerably higher share of aggregate corporate income, than the 35 per cent suggested for personal incomes. Yet it would hardly be reasonable to raise corporate income tax rates for the various corporate income brackets to a level as high as that which would have to apply to personal incomes of the same magnitude. The risk that production becomes inefficient if industrial efficiency remains entirely unrewarded is substantially greater than the risk that individuals withhold their services on account of being taxed too heavily. Moreover, the resistance against taxing away practically all corporate incomes would be even greater than resistance to extraordinarily heavy individual taxation. An attempt to break this resistance fully would not be worth while, since the difference between the yield of the present corporate income tax structure and that of a confiscatory tax would not amount to more than about 7 to 8 per cent of national income. Last but not least, it should be realized that corporate surpluses can be made into a more reliable source of lending than personal incomes. In fact, corporate savings would become the only source of voluntary lending "out of net income," since no individual savings could be expected under such a scheme. Hence, while it is desirable to raise corporate income tax rates beyond their 1941 level, it would not be reasonable to raise them to the levels suggested for personal incomes of identical size. Instead, dividend payments could be limited; and the investment of corporate surpluses in government securities could be stimulated by making tax rates dependent upon how the undistributed surpluses are used.

It should be stressed that, while increased reliance on excise taxes, rather than on income taxes, would diminish progressiveness, financing

[39] Income velocity is in the rough order of 2. Consequently, 5 per cent of income corresponds to roughly 10 per cent of the stock of money.

[40] Yet it should be borne in mind that the potential rise in *industrial* production definitely overstates the potential rise in *aggregate* real output. As to the slow rise of industrial production in recent months, see Table VII above. It should not be expected that in the future course of the war the average annual rate of increase in aggregate real output will exceed 5 per cent by any substantial margin.

by excise taxes is much less undesirable than inflationary financing on the scale now contemplated. Excises and sales taxation share lack of progressiveness with inflation. But excise taxes and sales taxes in themselves do not tend to disorganize the currency and thereby to reduce economic efficiency. Furthermore, certain commodities could be exempted from sales taxation, while they could not be exempted from a cumulative price rise. We do not mean to deny that, in so far as rationing and price control are completely effective, *controlled* inflation may, for the duration of the war, distribute the consumption burden more equitably than do sales taxes. Yet direct controls, such as rationing and price control, are unlikely to prevent a considerable rise in the price level if the monetary pressure becomes very high and the postwar difficulties also increase substantially in case the temporarily sterilized purchasing power of the war period becomes excessive. *The substitution of increased excise taxes or of a general sales tax for some portion of the income taxes suggested above would be distinctly less harmful than inflationary borrowing on the now contemplated scale.*

A severe taxing policy would have to be combined with certain measures of price control and rationing.[41] This is true mainly because no degree of taxation would reliably prevent the wealthier groups of the population from maintaining their consumption by depleting their idle balances. This is another way of saying that taxes may be paid out of previously accumulated hoards and that loans, too, may be made from these sources rather than "out of current income." The curtailment of consumption for which we are heading is obviously very significant. All calculations point to the necessity of cutting per capita real consumption to deepest depression levels. Considering the absence of unemployment in war periods and also the growth of population during the last decade, this may imply standards considerably lower than those of 1932 for the middle and upper brackets. The resistance against such a substantial reduction of the standard of living will be strong. If free competition among consumers were maintained and taxes were raised to the level considered above, dishoarding would undoubtedly become a means of partly maintaining consumption standards. This is the main reason why income taxation in itself does not necessarily result in an equitable distribution of burdens[42] and also does not, in itself, prevent

[41] We mean here price control and rationing of consumers' goods. The allocation of resources to armament industries, considered above, obviously implies rationing of resources.

[42] The other reason is that, in fields of especially high scarcity, prices will tend to rise at practically all levels of income taxation. It was suggested above that this problem be handled by the means of excise taxes. It is desirable to combine excise taxation with price control and rationing rather than to rely entirely on excise taxes. As was pointed out in the text, the justification of excise taxes in these cases is that direct controls alone would presumably not prevent a rise in prices effectively. By means of excises, the inevitable rise could be utilized for the purposes of the Treasury.

the leaking out of scarce resources from the war sector of the economy into the civilian sector. Price control and rationing are insufficient substitutes for a reasonable taxation policy; but price control and the rationing of scarce essentials are necessary to supplement an equitable and efficient policy of war finance.

It should be added that the deduction of income taxes at the source, wherever the "source" is distinct from the income recipient, would greatly facilitate the achievement of these objectives. This method would have the advantage of substantially reducing the time lag between legislating and collecting. Many persons would thereby be induced to adjust their budgets to changed taxes simultaneously. Deduction at the source may also reduce administrative expenses, although certain administrative difficulties should not be overlooked. The main difficulty would seem to be that of handling the problem of residuals which cannot be settled before the tax year is over. The *final* yearly tax of an individual cannot be calculated before his yearly income is known, since under a progressive income tax the yearly income is one of the determinants of the rate which should have been applied.

Conclusion

The "ideal" tax policy discussed in the foregoing pages would enable the Treasury to refrain from inflationary borrowing. In reality we must take it for granted that some portion of the war fund will be raised by inflationary methods, although a serious effort will no doubt be made to sterilize the additional money stock in the hands of the consumer by the means of direct controls. But if these controls are to be reasonably effective and if the problem of post-war readjustment is not to be aggravated considerably, the ideal degree of taxation should be approximated much more closely than is now planned.

According to the Budget Message submitted to Congress on January 7, 1942, the aggregate revenue of the fiscal year ending June 1943, would amount to about 26 or 27 billion dollars.[43] This figure includes about 2 billion dollars expected from increased Social Security contributions. The detailed tax proposals of the Treasury were submitted to Congress early in March. Total expenditures of the Treasury for fiscal 1943 will exceed 70 billion dollars and consequently the deficit reach a level of about 45 billion dollars. Taking account of the increased tax burden but disregarding for a moment price control and rationing, it may be assumed that not more than about 20 billion dollars of the total borrowing would tend to come out of current gross savings. The rest would tend to become inflationary borrowing. The

[43] Individual income taxes would apparently yield about 8 billion dollars and corporate income taxes, including the excess profits tax, about 9 to 10 billions.

supply of money now being in the order of 50 billion dollars, there would be a tendency for inflation at an annual rate of about 50 per cent.[44] Price control and rationing would have to obviate this tendency and thereby to enforce a higher rate of saving. But it does not seem possible to work against a pressure of this magnitude successfully. Taxation should be increased substantially beyond the now contemplated level before it is too late.

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[44] The tendency may even be in excess of this, considering that the supply of consumers' goods will be declining simultaneously.

THE FUTURE OF FROZEN FOREIGN FUNDS

By JUDD POLK

Over 7 billion dollars in foreign-owned assets are now subject to regulation by the United States Treasury Department. (See Table on p. 266.) The presence of extensive exchange controls in a country long distinguished as the foremost champion of free exchange raises questions of the most far-reaching significance for the future course of international finance. It will be the concern of this paper to examine the circumstances under which the American controls operate with a view to determining what conditions may be necessary or desirable before the United States can safely reopen its money markets to foreigners.

The immediate objective of any exchange control is to bring foreign transactions under the scrutiny of a governmental agency in order that the particular purposes of the government may be enforced. While these purposes differ widely among the various countries,[1] they ordinarily are concerned with (1) the rationing of foreign exchange rendered scarce by continued strains, arising from the balance of payments, on cash resources,[2] and/or (2) the supervision of imports with a view to influencing the terms of trade or in support of internal economic policies of the government. In general it may be said that government intervention in the foreign exchange markets has been provoked in most cases either as a necessary feature of governmental regulation of trade, or as a sort of temporary receivership for deranged national accounts, where the alternatives—uncontrolled currency depreciations or formal devaluations—were thought to be more onerous methods of securing the needed correction in the balance of payments.

I. The United States Version of Exchange Control

The United States had two grounds for opposing the world-wide trend toward exchange control, which in the years 1931-39 put every important exchange market save our own on a controlled basis.[3] The

[1] Professor Ellis distinguishes functionally seven types of exchange control, ranging from the prevention of capital export to the bolstering of totalitarian economic and political control. (H. S. Ellis, "Exchange Control in Germany," *Quart. Jour. of Econ.*, Aug., 1940, 159-68.) United States' wartime controls are comparable with the latter class, with the important distinction that they are *wartime* (*i.e.*, temporary) controls.

[2] Rationing exchange by some means other than currency depreciation is here meant.

[3] The British and French markets were not strictly controlled until the war made it necessary. However, the development of British bilateralism was sufficiently rapid throughout the thirties to prevent the classification of sterling as strictly free. See H. J. Tasca, *World Trading Systems* (Paris, 1939), pp. 141-57. The French market was subject to frequent—though perhaps not sufficiently frequent—rate revisions. See P. Einzig, *World Finance, 1939-1940* (New York, 1940).

first was a matter of economic faith—that increased governmental interference with international finance would impose an incubus on international trade.[4] The many facets of this faith are hard to define, but perhaps the Hull program may be considered an application of it in modern circumstances. It does not insist that exchange markets shall be absolutely free of all government regulation. Rather it contemplates that, though regulation may be undertaken in the interests of protecting international currency relations against speculative derangement and "downward spirals" initiated by depression, such regulation shall none the less be confined within limits consistent with the conception of exchange markets as mechanisms facilitating the adjustment of the international balance of payments.[5]

Whether this faith suited the circumstances of other countries or not, it was clearly more appropriate to our own international economic position than acceptance of the trend toward exchange controls would have been, and this was the United States second ground for opposing the exchange control. Throughout the difficult thirties the United States never experienced any really awkward shortage of exchange. A chronically active balance of trade (4 billion dollars, 1935-40), coupled with a torrential flow of both long- and short-term capital to this country (7.4 billion dollars, 1935-40),[6] produced not an exchange shortage but an *embarras des richesses*. The manifestation of these circumstances was the unprecedented 12 billion-dollar influx of gold in these years.[7] But even in the event of an exchange shortage, our relatively small ratio of foreign to domestic trade would have kept the problem less than crucial in our national economic policy. As it was, we were more concerned with the fact that our credit balance in commercial and capital transactions with the rest of the world was frozen by the controls adopted by countries in circumstances precisely the reverse of our own.

[4] However, W. Diebold (*New Directions in Our Trade Policy*, New York, 1941, chap. 2) finds that available evidence on the effect of the Hull anti-control program on trade does not support the proposition that a removal of controls stimulates imports. But this may have been merely the failure of the import-stimulating aspect of the policy to overcome the effects of the devaluation of the dollar as a stimulus to exports. *Cf.* Imre de Vegh, "Imports and Income in the United States and Canada," *Rev. of Econ. Stat.*, Aug., 1941, p. 137. De Vegh found that during the period of pronounced increase in exchange controls, the League of Nations figures show a drop in the marginal import ratio (*i.e.*, the slope of the regression of world imports on world industrial production) from .95 in the period 1925-29 to .49 in the period 1932-38. (*Ibid.*, pp. 138-39.) Ellis also believes that exchange controls reduce the volume of trade and discusses the evidence. (*Op. cit.*, pp. 184-91.)

[5] *Cf.* Tasca, *op. cit.*, pp. 158-60; J. Donaldson, *The Dollar* (New York, 1937), pp. 193 *ff*.

[6] This figure was derived from *Federal Reserve Bulletin* figures on capital movements and earmarked gold. The dates are inclusive.

[7] *Ibid.*

Despite the opposition of the United States to the trend,[8] foreign exchange markets outside of this country had become alarmingly "unfree" by the summer of 1939. The imminence of war gave added impetus to the world-wide flight to the dollar. Repatriation of American foreign investments (804 million dollars, 1935-40),[9] the United States Treasury's gold purchases,[10] the transfer of foreign-owned funds to the uncontrolled American market in the interest of liquidity and security —all these factors in the general movement were intensified by the threat of war, and later by the war itself. This one-way movement of international funds, which foreign controls originally encouraged, came to be in itself a major cause for the continuation and extension of such controls, and developed into the main problem of international finance in the pre-war period. No solution was in sight when the war itself, bringing rigid new controls in its wake, indefinitely postponed the search. Before the war brought us a completely different order of financial concerns, the main problem for the United States was how to foster international financial institutions which would dispense with the competing, arbitrary, and discriminatory controls imposed by various nations for various purposes, without merely returning to the magnificent disorder which originally prompted those controls. It is to this problem that the United States will have to return after the war.

However, when the United States returns to the problems of peace finance, it will do so not as the world's leading advocate of "free finance," but as the world's most powerful practitioner of exchange control. The present controls were adopted in response to a dilemma occasioned by Germany's military seizures. In April, 1940, when the first controls were imposed, there was no problem of capital flight or exchange shortage to be met. The United States had simply to choose between sacrificing its free exchange policy and allowing Germany, less reluctant in controls, to take over the American holdings of invaded countries. It chose the former.

[8] To a large extent the opposition of the United States was merely verbal. We did not liberalize our trade policy significantly. The Hull program apparently favored exports more than imports. (Diebold, *op. cit.*, pp. 9, 22.) The devaluation of the dollar and the high tariff policy played some part in driving other nations to adopt exchange controls. *Cf.* M. A. Gordon, *Barriers to World Trade* (New York, 1941), p. 30. On the other hand, the United States did continue to buy gold despite the proportions of its flow here, and that was a definite step supporting a "free finance" policy, whether that was the actual motive of our gold purchases or not.

[9] *Federal Reserve Bulletin* figures on international capital movements.

[10] The bulk of the gold sales were, of course, merely the means of effectuating the flow of capital to the United States. None the less, for new gold the United States was the only practical buyer in the world. Similarly, large amounts of gold ordinarily held in reserve abroad were shipped here. Accordingly, it is proper to include transfers of gold to this country as an independent manifestation of the "flight to the dollar," and the existence of a steady gold market here as one of the reasons for that flight.

By subjecting to Treasury licensing all transactions involving a property interest of any national of an occupied country, the United States hoped to accomplish several objectives.[11] Most immediately, the Treasury's scrutiny of such transactions was intended to be a protection to owners in invaded countries. In addition, however, it was designed to afford some measure of protection to the American custodians—mostly banks—of the property of these owners.[12] In lieu of government intervention, the custodians had no legal basis for refusing to honor legitimate drafts; and they had no factual basis on which to determine whether a given draft was drawn under German duress or not. A further, though much more remote, prompting of the American controls was the thought that American creditors and investors might eventually be benefited by the government's efforts to keep the assets of invaded countries intact.

For these purposes it was thought sufficient to require licenses only for those transactions which involved the property of the invaded nations. However, experience with enforcement readily showed, and policy belatedly recognized, that effective prevention of any specified class of transactions meant rigorous supervision of *all* transactions involving a foreign interest.[13] Moreover, as the United States increasingly undertook economic measures against the Axis, a new motive for exchange control appeared: the bolstering of our anti-Axis economic policy by means of a financial blockade. Hence, from a limited control intended primarily to protect invaded countries, the United States exchange control grew in a year to a thoroughgoing Treasury supervision of any foreign financial transaction which might redound to the benefit of the Axis.

[11] The motives of the freezing are available in the press accounts of interviews with government officials. See, for example, "Treasury Studies Legality of Policy of Foreign Assets," *Jour. of Comm.*, July 19, 1940, and editorial in the *New York Herald Tribune,* April 12, 1940. See also Treasury Department Appropriation Bill for 1942, Hearings before the Subcommittee of the House Committee on Appropriations, February, 1941, 77th Cong., 1st sess., pp. 78, 82-83, 84, 85; *Banking,* Aug., 1941, pp. 24-25; A. M. Strong, "The Freezing of Foreign Assets," *Am. Banker,* July 22, 1941. Later motives of economic warfare were specified in the official Press Release accompanying the Executive Order freezing Japanese and Chinese assets, July 26, 1941. J. W. Pehle, Assistant to the Secretary of the Treasury, in charge of the Division of Foreign Funds Controls, reviewed the purposes of the control and its development in a luncheon address before the Foreign Credit Interchange Bureau in March, 1941 (mimeographed). For an inferential summary of purposes, see "Foreign Funds Control through Presidential Freezing Orders," *Columbia Law Rev.*, June, 1941, pp. 1042-44.

[12] However, the issuance of a license does not necessarily determine the licensee's right to the funds involved, except in the case of foreign public funds where the State Department has been authorized by statute to certify the right of the claimant. Pub. Doc. No. 31, 77th Cong., 1st sess., chap. 43, S. Doc. 390.

[13] " 'Freezing' of Assets May Be Broadened," *Jour. of Comm.*, February 11, 1941; "Millions in U. S. Money Withdrawn by Italians," *New York Herald Tribune,* May 3, 1941; "Reich Liquidating Its Credits Here," *New York Times,* April 17, 1941; and editorial in *The* (London) *Economist,* Feb. 1, 1941.

In form the control is simply a supervisory power over financial transactions with foreigners,[14] delegated by the President under statutory authority[15] to the Secretary of the Treasury. Under the President's orders[16] any transaction with, or for, or in behalf of, a foreign national of 35 specified countries[17] requires a Treasury license. To obtain such a license the parties to a proposed transaction must submit to the Federal Reserve Banks notarized forms setting forth all relevant details.[18] The banks forward these applications[19] to the Treasury's Division of Foreign Funds Control, where the facts are examined in the light of policies determined by an Inter-Departmental Committee. A licensee must keep a record of the transaction and may be required to report.[20] In addition, all holders of foreign property are required to report the nature of the holding to the Treasury.[21] Failure to conform to the orders is punishable by 10 years' imprisonment, or $10,000 fine, or both.[22]

The immediate problems of the control are those which concern its wartime effectiveness in preventing economic benefits to the Axis and economic detriments to victims of the Axis.[23] These problems are largely short-run problems of administration and, as such, do not raise sig-

[14] A fuller description of the control can be found in Hearings on the Treasury Department Appropriation Bill, *op. cit.*, pp. 76-105; Amos E. Taylor, "Frozen Funds and National Defense," *For. Comm. Weekly*, Aug. 9, 1941, pp. 6-7; "Property Census—An Element in Foreign Funds Control," *ibid.*, Aug. 16, 1941, p. 6.

[15] The President's authority derives from the Trading with the Enemy act of October 6, 1917, sec. 5 (b) (40 *Stat.* 415), as amended by the Emergency Banking act of 1933 (48 *Stat.* 1), and the Joint Resolution of May 7, 1940, which last see for the final version of the power. Pub. Res. No. 69, 76th Cong.

[16] The "freezing orders" issued under this authority date from April 10, 1940 (Executive Order No. 8389, amending Order No. 6560 of January 15, 1934) to December 26, 1941 (Executive Order No. 8998, amending earlier orders so as to extend freezing automatically to all territory occupied by the enemy). The basic control documents, namely the Executive Orders, General Rulings, General Licenses, Public Circulars, Proclaimed List of Certain Blocked Nationals, and the Presidential Proclamation authorizing the list, are all available from the Treasury or the Federal Reserve Banks.

[17] Norway, Denmark, The Netherlands, Belgium, Luxembourg, France (including Monaco), Latvia, Estonia, Lithuania, Rumania, Bulgaria, Hungary, Yugoslavia, Greece, Albania, Andorra, Austria, Czechoslovakia, Danzig, Finland, Germany, Italy, Liechtenstein, Poland, Portugal, San Marino, Spain, Sweden, Switzerland, U.S.S.R., China, Japan, Thailand, Hong Kong, and the Philippines. "Nationals" include many persons besides actual citizens or subjects. See Executive Order No. 8785, as amended, sec. 5. The transactions of unoccupied neutrals and anti-Axis belligerents are subject to liberal license provisions.

[18] Executive Order No. 8785, as amended, sec. 4(A), and Regulations thereunder, sec. 130.3.

[19] Except a small proportion which are decided at the Federal Reserve Bank on the basis of General Authorizations from the Treasury.

[20] Executive Order No. 8785, as amended, sec. 4(A and B); Regulations, sec. 130.3.

[21] Regulations, sec. 130.4.

[22] Executive Order No. 8785, as amended, sec. 8.

[23] See the present writer's "Freezing Dollars Against the Axis," *Foreign Affairs*, Oct., 1941, p. 113.

nificant issues in international finance.[24] The problem of what is to be done after the war, however, raises really vital questions of financial policy. And the consideration of these questions cannot be postponed until the return of peace.

The absence of government exchange controls has been habitually described—it may be wondered why—as a state of "free exchange." Any country's regard for free institutions may well command respect in these times, but a willingness to justify chronic disorder by labeling it "free" is merely an invitation to authoritarian controls. From this point of view, the striking characteristic of international finance from 1919 to 1939 is not that it was converted from a free to a controlled basis in most nations, but that, whether controlled or free, it moved in a more or less unbroken crescendo of disorder, punctuated at the beginning and end of the period by the complete rupture which world war entails.[25] Thus after the war the question will scarcely be one of deciding whether or not to return to pre-war financial institutions. There is literally nothing to return to. The question will be how to induce some degree of order in a field carrying a long tradition of disorder.

II. An Approach to Policy

In the remaining paragraphs of this paper it will be argued that: (1) The circumstances attending the return of peace will not be auspicious for an unqualified removal of United States controls, because such a removal would likely result in an arbitary allocation of United States goods not on the basis of international needs but on the basis of accrued claims, and because the unrestrained expenditure of such claims would embarrass the rebuilding of an adequate mechanism for international finance. (2) The possibilities in an international clearance of claims are not promising, either as a means of disposing of frozen claims here and abroad, or as a step in the reconstruction of international finance. (3) Only a comprehensive and carefully planned pattern of economic reconstruction will make possible a satisfactory handling of the frozen funds. In such a pattern of reconstruction, the frozen funds could, with considerable freedom, play a useful rôle.

Unqualified removal of controls. At the close of the last war, the wartime controls, which were very similar to the present ones, were

[24] The problem of securing Latin American coöperation in the control may be thought of as an exception to these statements. The international control techniques now (February, 1942) being worked out in the hemisphere will unquestionably have some influence on the development of post-war finance.

[25] For brief accounts, see P. Einzig, *op. cit.*, chap. 3; M. A. Gordon, *op. cit.*, pp. 7-46; J. B. Condliffe, *The Reconstruction of World Trade* (New York, 1940), chaps. 2, 3.

removed almost immediately.[26] It might be supposed in the first instance that a similar procedure would be appropriate after this war. After all, are not the frozen claims legitimate obligations of the United States? Short of a desire or willingness to repudiate these debts, what basis would the United States have for refusing to release the funds for whatever use their owners should elect to make of them?

This line of thought, however, oversimplifies the complications which may embarrass the free use of foreign funds after the war. Obviously the mere fact of a debt's existence is not a sufficient reason to support the unqualified freedom of international funds. The very existence of wartime restrictions shows that circumstances may arise under which obligations other than those of a simple debt nature may be regarded as determining the status of foreign funds. The question then is whether the circumstances of the immediate post-war period may, like the war itself, point toward the maintenance of some restrictions on the use of foreign claims.

The first objection to an unqualified release of the funds is that such a step would inevitably lead to an arbitrary international allocation of the available American goods. That such goods will be in intense demand after the war seems clear, in view of the industrial demoralization of war areas. If the goods are to be allocated through ordinary market processes, the owners of the frozen funds would gain an arbitrary advantage. How arbitrary is clear when it is recalled that the frozen claims have no necessary relation to a given nation's war sacrifices or post-war needs. For example, France presumably will have intact most of its current frozen holdings; China, Britain and Russia will have no substantial holdings at all (except their current gold production). Conceivably the problem of these arbitrary purchasing-power disparities might be approached in terms of new loans or post-war lease-lend arrangements. Since, however, the effectiveness of foreign purchasing power is limited by the export potentialities of our economy,[27] any leveling of arbitrary advantages via increasing the funds available to foreigners would force the United States (1) to permit an inflation of export prices, with the attendant depreciation of the dollar at the expense of domestic consumers, or (2) to adopt export controls, in which

[26] A presidential order of July 26, 1919, freed foreign accounts except for certain restrictions on Central European exchange, which were retained to facilitate the work of the American Relief Administration, and restrictions on transfers to Bolshevik sections of Russia, which were retained as part of the general United States policy vis-à-vis Russia. By December, 1920, even these restrictions were removed. Federal Reserve Board, *Annual Report,* 1919, pp. 48-49; *ibid.,* 1920, p. 34.

[27] These potentialities will probably be relatively low in the immediate post-war period when our economy is still geared to the production of war goods.

case we are in effect controlling foreign exchange.

In a period of post-war unemployment there might be considerable pressure on the government to adopt just such a policy of stimulating exports in order to increase domestic employment. The merits of this suggestion cannot conveniently be explored here, but we may note three strong objections: (1) the conscious inflation of export prices is itself a form of debt repudiation, a result utterly inconsistent with the motives here assumed to base its adoption; (2) it is doubtful that it would lead to any desired allocation of United States goods; and (3) as far as the (good) effect on employment in the United States is concerned, similar stimulation could be obtained by domestic-market projects, without any loss of product via exports.

The second objection to an unqualified release of the claims is that their complete liquidation might be a considerable blow to the reconstruction of international finance. As is well known, the 7.5 billion dollars in frozen claims[28] were originally acquired directly or indirectly through the shipment of gold, securities, and merchandise for sale in the United States. The movement of long- and short-term capital in the years 1935-40 itself built up a large part of these claims: 3.2 billion dollars in bank balances, 1.25 billions in earmarked gold, 803 millions in foreign securities, and 101 millions in brokerage balances.[29] The very fact that such funds could be transferred from other countries to the United States illustrates that some sort of system of international finance was *operating*, whether well or badly. Instruments of international monetary significance (*e.g.*, gold and securities) did exist. In effect the capital movement meant that balances which were formerly maintained in various markets came to be shifted to the United States market. The gold which the United States acquired in consequence remains available to secure their convertibility. For all practical purposes the United States became the international bank of the world, with substantially all international funds maintained here, and substantially

[28] Estimated as of the end of 1941. D. W. Bell, Under Secretary of the Treasury, listed the holdings of Denmark, Norway, The Netherlands, Belgium, Luxembourg, France, Latvia, Estonia, Lithuania and Rumania at 4.4 billion dollars based on a Treasury census of frozen holdings. (Hearings, *op. cit.*, p. 80.) My estimate for other countries is based on Federal Reserve and Commerce Department figures, corrected for estimated capital movements and checked against estimates made informally by various interested government agencies. For the country-by-country breakdown, see the Table, p. 266. It is to be borne in mind that, for the purposes of the freezing orders, many holdings which would not ordinarily be defined as "foreign" are included. (See footnote 17, *supra.*) Such inclusion might make the figure some 25 per cent larger than estimates of foreign holdings made for other purposes. To serve as an estimate of frozen funds at the end of the war, the figure would have to be qualified further by reductions or increases through licensed transactions during the war. The volume of these transactions is not available, but scattered evidence in the press on licensing policy and the *Federal Reserve Bulletin's* figures on current capital movements to and from certain of the frozen countries suggest that the frozen funds are being kept substantially intact.

[29] Derived from statistics on international capital movements in the *Federal Reserve Bulletin.*

all the international reserves (gold) here too.[30] No one can question the technical soundness of the reserve position of the United States. International claims could be completely liquidated in gold without disturbing the larger portion of these reserves. In the light of this unprecedentedly strong reserve position, why would the system of international finance be endangered by removing restrictions on foreign funds?

The danger is paradoxical only on first glance. United States gold reserves are not inadequate in the usual sense. They are merely irrelevant. There are good reasons to believe that a lifting of restrictions would not start a movement from dollar claims to gold, but rather from gold to dollars, just as before the war. These reasons are, firstly, that the post-war needs of nations owning dollar resources or gold are such as to urge their expenditure on goods; and, secondly, it seems unlikely that they will be in a position to remove their own controls after the war.[31] The United States, alone being capable of selling goods and amenable to buying gold, will become the place where international claims are cashed—not in gold, but in goods. The position of the United States is roughly comparable to that of a bank whose depositors all want to cash their deposits, but refuse to accept cash. This upside-down result is only another facet of the financial inversion which, as other writers have noted, has put gold on a dollar standard.

If this sort of encashment of international claims should be allowed to take place, as well it might, it would amount superficially to an honoring of international claims, but in reality to a winding-up of the system of finance to which they are relevant. The United States in effect would have "cashed" all the world's gold in a procedure through which the gold loses any further international monetary significance. The gold standard would paradoxically be lost through the very steps taken to save it. This paradox, though, is only another reminder that an international standard, gold or other, depends on international policy, not on unilateral action by a single nation.

Thus we may conclude that an unqualified removal of restrictions on foreign funds would be undesirable because (1) it would amount to an arbitrary allocation of limited United States production among the needy nations in the post-war reconstruction, and (2) it would tend to dissolve the available mechanism of international finance by permitting

[30] An accurate estimate of funds capable of conversion into dollars but not now in this country is not really possible. Of some interest is the Federal Reserve estimate that at the end of 1939 the potential dollar purchasing power of foreigners, including gold reserves not actually in this country, was 17.4 billion dollars. *Federal Reserve Bulletin*, Dec., 1939, p. 1042. This estimate does not, of course, take into account lease-lend balances or other war credits.

[31] The problem of maintaining a balance of payments without further depreciation of war-weakened currencies, and of expending the available foreign exchange resources on the imports thought to be most necessary in a reconstruction period, may be expected to prompt a continuation of controls, unless the nations can be persuaded by an offer of alternative advantages to relax their controls. This possibility is treated below in the text.

the complete liquidation of instruments formerly possessing international significance.

Before turning from the desirability of removing our exchange controls without any further understanding as to the use to which the freed funds can be put, two other aspects of the problem should be mentioned, though they cannot be discussed in any detail here. The first is to note that the legal consequence of removing the controls would be to turn over to the courts the innumerable complex problems of ownership and public policy which are bound to arise. The courts, in determining which of several foreign claims to various funds should be honored, would have no well-developed definition of public policy on which to rely.[32] The problem would be especially formidable in the event that the United Nations should fail to bring about the restoration of France, Belgium, and The Netherlands, the largest owners of frozen funds. (Together, these three countries own over half of the frozen funds.) The second is the political importance of the defeat of Germany. If Germany is not defeated, the likelihood that the United States would permit Europe's American funds to be used, under German direction, for the purchase of American goods seems most remote, quite apart from the economic considerations discussed above.

An international clearance of debts. The United States might well feel that the disposition of foreign claims in this country does not represent a problem suitable for unilateral action by this country, but rather represents one aspect of the larger problem: What is to be the post-war fate of international claims everywhere? Recognizing this larger problem, some observers, including Secretary of the Treasury Morgenthau, felt, even in the early weeks of our control, that the frozen foreign funds might afford a means of securing for American investors and creditors at least a partial payment on their outstanding claims against foreigners.[33] This concern about foreign debts was not new. Discussions of the defaulted European war debts, the defaulted South American loans, the German-blocked dividends and interest payments, and the Mexican expropriations provide much evidence of its place in American foreign policy.[34] But the United States had never before been in a position to undertake directly retaliatory action; there were no foreign balances in this country to be blocked abroad. The war-prompted flight

[32] For a discussion of the state of the law relevant to the settlement of foreign claims, see *Columbia Law Rev., op. cit.*, pp. 1048 *ff.*, and an extended note on "Protective Expropriatory Decrees of Governments in Exile—Their Application to the United States," in the same issue, p. 1072. See also Arthur Nussbaum, *Money in the Law* (Chicago, 1939), chap. 8.

[33] See, for example, "U. S. May Use Funds of France on Debt," *New York Times,* Aug. 9, 1940; *PM,* Oct. 10, 1940.

[34] See J. W. Gantenbein, *Financial Questions in United States Foreign Policy* (New York, 1939), chap. 1 and *passim.*

to the dollar changed this situation by radically changing our balance of payments.[35] The influx of foreign capital resulted in the piling up of European balances here, despite our favorable balance on current account. At the end of May, 1941, for instance, the *Federal Reserve Bulletin* reported foreign banking funds in this country at 3.9 billion dollars, in contrast to a mere 364 millions reported by United States banks as their foreign holdings. So the United States had the power, if it wished to exercise it, to do what England had frequently done during the past decade—insist that, before foreign balances would be released, some agreement should be made designating a portion of the funds to be used in satisfaction of foreign debts.

The figures for total foreign investments of Americans abroad and of foreigners here appear to suggest that such a payments agreement might provide for extensive compensation to American investors and creditors. Our assets abroad at the end of 1940 were estimated by the Department of Commerce to be slightly over 11 billion dollars, or 23 billion dollars if obligations arising out of World War I are included. If only the countries whose American assets have been frozen by the President's orders are counted, our foreign investments are as follows:[36]

Direct investments	$1,051	million
Portfolio investments (dollar bonds)	613	"
Short-term ("Banking") funds	80	"
World War I debts	8,069	"
	$9,813	"

The frozen assets, we have seen, are estimated at 7.5 billion dollars.

However, the possibilities of offsetting American claims against frozen foreign claims is less promising than these totals might suggest. If the clearance is undertaken on a country-by-country basis,[37] a lump

[35] After 1935 the United States might have blocked foreign balances to force a settlement of debts to Americans, but strong political considerations operated increasingly against the step. We hesitated to demoralize further the already demoralized European markets, and we were still hopeful that our efforts in behalf of free finance would be successful. *Cf.* Secretary Morgenthau's defense of the government's gold-buying policy. Letter to Senator Wagner (Mar. 22, 1939), Treasury Department, Press Release, March 23, 1939.

[36] See table, p. 266, and footnote 28 for sources.

[37] If the occupied countries owning frozen assets here are restored after the war, clearance on a country-by-country basis would be the only possible method. A lumping together of European funds would, of course, be to some extent an appropriation of the assets of one country to pay the debts of another. If the European countries are not restored, or if Germany remains in control of Europe, then there would be somewhat more justification for treating the assets as "European." In this event, however, the procedure would be less a reciprocal clearance than a unilateral action by the United States, recognizing the loss of its European investments, and appropriating European assets here as an offset.

figure of foreign investments is not an appropriate indicator of clearance possibilities. From the table below it can be computed that the frozen assets of eight countries exceed our placements there, also frozen,

A PARTIAL BALANCE SHEET OF AMERICAN AND FOREIGN CLAIMS[a]
(In millions of dollars)

Country	Foreign claims against United States	United States claims against foreigners		
		World War I	Other	Total
Austria	$ 9	$ 26	$ 6	$ 32
Belgium	760	401	53	454
China	275	0	140	140
Czechoslovakia	5	165	7	172
Denmark	92	0	111	111
Finland	17	8	10	18
France	1,593	3,864	167	4,031
Germany	107	1,225	382	1,607
Greece	122	32	24	56
Hungary	24	2	33	35
Italy	72	2,005	155	2,156
Japan	131	0	197	197
Latvia, Lithuania, Estonia	29	29	53	82
Luxembourg	48	0	—	—
Netherlands	1,619	0	96	96
Norway	175	0	91	91
Poland	7	206	81	287
Portugal	157	0	17	17
Rumania, Bulgaria	55	64	56	120
Spain	30	0	86	86
Sweden	516	0	28	28
Switzerland	1,484	0	12	12
U.S.S.R.	39	192	10	202
Yugoslavia	71	62	33	95
Total	$7,437	$8,281	$1,844	$10,125

[a] Not listed here are Thai assets, frozen on December 9, 1941. Furthermore an amending order of December 26, 1941 froze Hong Kong and provided for the automatic freezing of all further territories occupied by the enemy. Executive Order No. 8988.

Sources: For foreign holdings in the United States, see footnote 28. The United States claims arising from World War I are taken from the United States Treasury's *Annual Report*, 1940. Other United States investments are estimated by correcting the Commerce Department's figures for 1936 (the last year for which the figures are available by country) on the basis of the increase shown in Commerce Department's estimates for our investments in all countries in 1939 (United States Department of Commerce, Release of July 15, 1940). Figures for our investments in Luxembourg are not available.

by 4.3 billion dollars, indicating that this amount of the frozen funds would not be available for offsetting purposes.

If a further distinction is drawn between government and private debts, and private assets are excluded from clearance against public debts, a further reduction must be made in the amount of frozen foreign

funds which might be disposed of by clearance. The amount of reduction on this score can be estimated only roughly, since available statistics do not distinguish between private and public funds. But there is reason to believe that, by-and-large, the frozen funds are about two-thirds private, and one-third government and central bank.[38] If this estimate is correct, clearance would take care of only 1.5 billion dollars.

In addition, certain reductions must be made in the American claims which might appropriately be allowed. The clearing estimates given above have lumped all American claims together—war debts, private claims, dollar bonds. It is at least doubtful, however, whether the United States should or would insist that the old war debts be included in clearance. An obvious element of inequity would arise from the circumstance that the major debtors of World War I are, with the exception of France, the countries with small American holdings. Of the 8 billion dollars in war debts owed by the countries with frozen American holdings, three-fourths are owed by three countries: Germany (1.25 billion dollars), Italy (2 billion dollars), and France (3.9 billion dollars). England, with an old war debt of 4.4 billion dollars, would escape the clearance altogether. Moreover, the United States might decide as a matter of policy that a portion at least of the public funds of The Netherlands, Belgium, Poland, Czechoslovakia, Greece and Yugoslavia should be turned over to Britain in accordance with understandings, already reached or to be reached by the end of the war, between Britain and the governments-in-exile of these countries. If for these or other reasons it should be felt inappropriate to include the old war debts in the clearance, then the only American claims against the public funds of the frozen countries would be 500 million dollars in dollar bonds.[39] A clearance of 347 million dollars is the greatest possible on this basis.

In making these clearance calculations, private claims have been excluded on the grounds that responsibility for private obligations is not properly imputable to governments, except where there is a specific government guarantee. Certain circumstances might arise, however,

[38] The proportion differs considerably for different countries, according to the scattered information which can be derived from evidence on gold holdings and central bank holdings. In the case of some countries, the writer has been able to get no information at all. However, since gold is mostly owned by governments and central banks, and securities by private owners, with banking funds split between the two, and since fairly accurate estimates of these types of holdings are available, the proportion here would seem at least not unreasonable. Central bank funds were here arbitrarily counted as public in nature, although there is considerable question whether for other purposes central banks are to be regarded as public or private institutions.

[39] This figure includes loans guaranteed by foreign governments and obligations of municipal and provincial governments, as well as the direct debts of national governments. The inclusion of municipal and provincial obligations, which total 82 million dollars, is admittedly arbitrary. See P. D. Dickens, "Status of United States Investments in Foreign Dollar Bonds, End of 1940," *For. Comm. Weekly,* July 19, 1941, p. 3.

which would render government responsibility for private commitments more reasonable. This would be the case if governments adopted (or continued) exchange controls which in effect appropriate the foreign assets of their private citizens. Under such circumstances, governments might be considered to be assuming responsibility for the debts of their private citizens, even though the privately-owned assets which the governments appropriate do not belong to that group of private citizens against whom Americans have claims. The controlling governments would then be chargeable with preventing private debtors from making payments. If such circumstances should apply to all the countries whose funds are now frozen in the United States, the possible clearance, country by country, would be 1.2 billion dollars, approximately the figure (1.5 billions) obtained above by excluding frozen private assets, but including the old war debts. Inclusion of both war debts and private claims of the United States does not materially increase clearance possibilities since either one exhausts the major portion of the available funds in this country.

It is not possible to make a defensible estimate of assets of private foreign debtors in this country which might be available for satisfaction of their obligations to us. It seems unlikely that the amount represents any substantial portion of the frozen funds, however. For instance, foreign exporters would typically own funds here, whereas foreign importers would owe debts. Only governments may be expected to be debtors and creditors of the United States at the same time.

We may conclude, then, that (1) in the unlikely case Germany should succeed in dominating Europe, and we should counter with a seizure of the frozen assets of that entire area, making these assets available for the satisfaction of American claims of all types, the clearing process would operate at maximum efficiency. It would dispose of 4.6 billion dollars of the frozen funds. (2) If, however, European countries are restored to their former national status at the end of the war, the maximum clearance (country by country) would be 3.2 billions; but this amount would probably be reduced to practically nothing by weeding out both the American claims and the foreign funds thought to be inappropriately included in the clearing.

In general the clearance of claims is unattractive, even apart from the limitations the figures indicate, because it arbitrarily singles out a limited area of the world for a forced settlement of claims, while neglecting such important areas as the British Empire and Latin America. Moreover, it is at best a procedure that would contribute greatly to the further economic segmentation of the world. As such, it would complicate, or even be utterly incompatible with, plans for the reconstruction of war-blighted countries.

The frozen funds in planned reconstruction. The perplexing problem in the post-war handling of foreign funds concerns not so much their equitable liquidation as their effective re-utilization in the processes of international finance. For the reasons expressed above, there is at least a strong possibility that unqualified removal of the controls, or removal conditioned on a reciprocal clearance of claims, would result in the extinction of all international balances—a process roughly amounting to the winding-up of the mechanism of international finance. Consequently, either of these alternatives would deal a severe blow to hopes that an adequate pattern of world finance might be constructed out of the remains of the inadequate pre-war system. The problem, then, is how to qualify the post-war release of funds so as to avoid these objections.

Basically the function of international finance, of which the foreign claims in every nation are an important aspect, is to provide international economic development with what we may describe as flexibility in time and space. Time flexibility in a system of finance permits the development of any given area of the world at a rate faster than the savings of that area would allow. Space flexibility gives facility for transferring savings from one area to any other. During the present world war, pressing needs for the greatest possible expansion of armaments plus the strategic advisability of isolating enemies and unfriendly powers reduce flexibility to a very low degree. But, what is more relevant to our purposes, even before the war the financial system had an intolerably low degree of flexibility, owing to factors too familiar to justify recital here.

At this distance from the circumstances attending the return of peace, it is difficult to speak concretely of the precise rôle which the now frozen foreign funds may be suited to play in a program of remedying the inflexibility of world finance. It is obvious that controls which operate as virtual embargoes on the movement of funds reduce flexibility. Similarly, the existence of a huge volume of defaulted international debts reduces it, as do unstable currencies. But it would be a serious error to suppose that all exchange controls, other than limited governmental operations to smooth out currency fluctuations, must be inimical to flexibility. For, despite the abstruse and extensive political manipulation of exchange controls in the last decade, there seems to be little hope of preventing defaulted debts, capital embargoes, or currency instabilities without a very appreciable degree of government control.[40]

[40] Probably few economists would care to defend the abuses of exchange controls, just as few would care to defend the financial abuses which inaugurated the era of exchange controls. Ellis apparently fears that the discriminatory possibilities in exchange control practice cannot be avoided. (*Op. cit.*, p. 217.) The danger cannot be glossed over. It

The vast movement of international funds to the United States after 1934 was unquestionably a manifestation of chronic disorder in international finance. Even so, the movement may prove to have been not entirely unhappy for the eventual reconstruction of finance. By unprecedented pooling of financial reserves in a single center, the movement may prove to have facilitated opportunely the development of a nucleus for world banking. Moreover, the movement has given to the United States increased influence in the use of international funds in the reconstruction of finance along liberal lines.[41] Thus, for example, the United States might advantageously release funds for expenditures on American goods on the condition that the beneficiary countries agree to maintain minimum gold balances in New York, or subscribe to an agreed amount of capital stock in a bank specially created to facilitate short- and long-term capital movements among the member countries.

Without a planned reconstruction, any attempt to release the frozen foreign funds will worsen the condition of international finance, proving at the same time to be very costly to the United States. But in a planned reconstruction, the problem of the frozen funds largely disappears. For example, once a means of international banking is reconstituted, there would no longer be any reason to fear the effect of allowing the owners of frozen funds substantial freedom within the agreed rules. There still might be a considerable movement to convert dollars into goods, but this movement would proceed from the actual post-war need for goods, and not from the need to dispose of international funds that have lost their significance outside of this country. Nor would it any longer be unlikely that a good portion of the funds would be withdrawn in the form of gold (assuming, of course, that the new agreements retain gold as an international money). For gold could again have a useful function in defining currency relations, securing legitimate adjustments in balances of payments, and even as a familiar basis for the control of domestic currencies.

It would be pointless to understate the difficulties which beset such a program. It involves the articulation of currencies weakened not only by unproductive foreign debts and depressed world agricultural prices, but even more by the strains of war itself, both by distortions in the

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seems scarcely realistic to entertain the possibility of government controls aimed at international monetary stabilization without also recognizing the same opportunities for discriminatory practice. *Cf.* Tasca's account of the development of British bilateralism. (*Op. cit.*, pp. 145-57.) At the same time, there is no reason why international controls should not prove capable of avoiding both discrimination and instability. *Cf.* Virgil Salera's account of Argentine exchange control experience. (*Exchange Control and the Argentine Market* [New York, 1941], chap. XI.)

[41] By "liberal lines" is meant a system of finance which avoids the arbitrary groupings of regions on political rather than economic bases.

balance of payments and by inflationary methods of armaments finance. It further involves conceptions of international responsibility and co-operation which are quite at odds with the nationalistic developments of the past decade. It may provoke opposition among private bankers, who, though not in a position to provide the necessary institutions for a flexible world finance, none the less feel that they must resist the advent of government in their field. They contend that such a program would put finance at the mercy of politics, or more concretely and frankly, that it would deprive them of an established source of revenue.

In conclusion, then, we may say that, in deciding what policy to follow with respect to the frozen foreign funds, when the return of peace removes the reasons for their freezing, the United States must recognize its relation to the whole problem of financial reconstruction. The release of the funds is vastly more complicated than was commonly supposed at the time of their freezing. At the same time, the size of frozen holdings in the United States provides a real opportunity to influence world finance in the direction of an inclusive and flexible system, and away from unrelated arrangements between pairs of nations or among small groups of nations. Just as the war called a halt to the chronic disorders of pre-war finance, so the end of the war will provide an occasion, not soon to come again, for the long-overdue revisions in international finance. The unusual position of the United States at the end of the war, both as the trustee of a very large portion of international funds and as the only large nation in a position to finance reconstruction, could provide the means of taking advantage of that occasion in the interest of more flexible and stable world finance.

New York

STATISTICAL INVESTIGATIONS OF SAVING, CONSUMPTION, AND INVESTMENT

By Mordecai Ezekiel

II. Investment, National Income, and the Saving-Investment Equilibrium

In the first article of this series we dealt with the functional relation between national income and saving or consumption as derived from statistical analysis of data for the United States covering the past two decades.[1] The hypotheses tested in the last article were:

1. Saving is a function of the current level of income, increasing as the level of income increases, but at a higher rate.
2. Consumption is a function of the current level of net income, increasing as the level of income increases, but at a lower rate than income.
3. The patterns of thrift, expenditure, and consumption at any given level of income are habitual patterns of action, changing only gradually in time, so that changes in current income received by each group produce reasonably consistent changes in total consumption and saving.

In this article we shall examine for the same period the apparent relation of investment to income while holding constant, where possible, the effects of other related factors. Since by our definition in any one year total investment equals total saving, the over-all relation must be the same as that already shown in Figures 4 and 5 of the previous article. This presents a difficulty which is similar to that of attempting to derive both a demand curve and a supply curve from a series of prices and quantities. However, we may gain a much better understanding of how the yearly equilibrium of total saving and investment happens to have been struck at the levels of gross national income prevailing during each of the past twenty years if we look further into the component elements of investment and how they are related to income and other factors.

In addition to studying the behavior of investment under the fluctuating conditions of the past twenty years, we shall also investigate what

[1] Mordecai Ezekiel, "Statistical Investigations of Saving, Consumption, and Investment—Part I: Saving, Consumption, and National Income," *Am. Econ. Rev.*, vol. xxxii, March, 1942, pp. 22-49. Acknowledgment in this, as in the previous article, is due to John Maynard Keynes, Alvin H. Hansen, Gerhard Colm, Walter S. Salant, Hans P. Neisser, A. Smithies, and Paul A. Samuelson, for many valuable suggestions and comments, and to Virginia R. Duncan for the compilation and statistical analyses of this study and for bringing together and abstracting the bibliographical material.

investment would be likely to be more under stable conditions if our economy were operating at a steadily increasing rate of production and income.

The hypotheses which we propose to test here may be stated as follows:

1. If investment is broken down into its various components, the relation to the level of income will vary from item to item. Examination of these separate relations will yield some explanation for the past behavior of income and employment.

2. Investment expenditures are related to certain independent factors, such as the anticipation of future returns and the rate of interest, and others, which examination of the separate components will more clearly reveal.

3. As income rises the increase in potential saving has been more rapid than the increase in potential private investment, and the point at which the two could be in equilibrium has been materially below a level of full employment and production.

4. The levels of investment which could be maintained at full employment with a steadily rising level of national income would differ materially from those which have prevailed during the temporary periods of full employment under past widely fluctuating conditions.

From the analysis in Section A which follows we derive what might be called an "apparent investment-income function" under the conditions of the past twenty years. Comparison of this function with the saving function (Section B) presented in the previous article indicates the levels of income at which saving and investment presumably would have been in equilibrium during the 1920's and 1930's, had there not been investment expenditures which were independent of our private domestic economy. The first two sections of the paper present, then, a study of the behavior of income, investment, and saving under the cyclical conditions existing during the past two decades. The third section of this article attempts to develop the long-term normal investment function—to estimate the investment which would be necessary to maintain a gradually but steadily rising level of full production and employment, while allowing for population growth and technological development. This function may then be compared with the saving function as determined under the institutional patterns of the past two decades to give a measurement of the "gap" between potential saving and potential private investment which would remain to be closed in the post-war period if the national income were maintained at substantially full levels of production and employment, while providing for the expanding population and for continuing increase in productivity.

A. *The Apparent Investment-Income Relation under the Fluctuating Conditions of the Past Two Decades*

Types of Investment

The data on offsets to saving, or income-producing expenditures, were presented in detail in the first article of this series. They are again listed here in Table I. These data may be classified into three groups with respect to their significance from the investment point of view:

Long-term or permanent private investment includes items of private expenditure for all durable producers' capital goods, plus expenditures (either commercially for profit or by individuals for their own use) for housing. Such expenditures cover what classical economists and most business men think of when they speak of "investment." One distinguishing feature of such investment is that it can never be negative.[2] Even in the worst year, 1932, expenditures for long-term permanent private investment totaled 2.0 billion dollars.

Short-term or temporary private investment includes those items of private investment where increases in some periods may be offset by decreases in others. In a stationary society, the total over a term of years would tend to be zero. (Even in a stationary society, long-term investment in contrast would have to equal in amount average depreciation and depletion.) Changes in consumers' credit and in inventories fall in this category.

Over the twenty years from 1921 to 1940 the average annual increase in consumers' credit was only 313 million dollars, and the average annual increase in inventories only 530 millions, yet consumers' credit varied through an amplitude from —1,485 millions to +1,046, and inventory changes from —2,278 to +2,964. While contributing very little to investment on the average, these items of temporary private investment did constitute exceedingly volatile and unstable items in individual years or periods.

Quasi-investment is a complex concept which must be introduced carefully. Both types of private investment, permanent and temporary, are largely conscious investment, in that they result from the deliberate decision of individuals or concerns to buy capital goods, or to buy consumers' goods financed through credit as if they were capital goods.[3] Beyond this investment due to the decision of private individuals or business concerns are items of investment which reflect institutions that

[2] Net investment can of course be negative when depreciation exceeds replacement. We are dealing here, however, with gross national income and gross capital formation. Physical production of plant and equipment can never be less than zero.

[3] This has the single exception that at times increases in inventories may represent involuntary investment, due to a contraction in market outlets after production has been gotten under way.

TABLE I—GROSS NATIONAL INCOME AND INCOME-PRODUCING EXPENDITURES THAT OFFSET SAVING, BY YEARS, 1921–40

(In millions of dollars)

Year	Gross National Income	Income-Producing Expenditures that Offset Saving							
		Total	Equipment	Plant	Housing	Consumers' Credit	Net Foreign Balance	Inventories	Government Net Contribution[b]
1921	63,751	9,548	2,758	2,475	2,313	−20[a]	1,327	47	648
1922	64,295	11,870	3,140	2,644	3,801	730[a]	293	514	748
1923	74,784	16,990	4,622	3,280	4,821	1,046[a]	−91	2,964	348
1924	75,161	13,279	4,343	3,307	5,229	311	530	−1,056	615
1925	79,686	17,032	4,598	3,591	5,750	842	199	1,523	529
1926	84,813	16,760	4,941	4,185	5,535	648	−39	1,246	244
1927	82,708	15,328	4,644	4,133	5,357	217	301	308	368
1928	86,167	16,039	4,743	4,103	5,019	821	518	102	733
1929	89,984	17,280	5,590	4,559	3,764	987	446	2,713	−779
1930	79,764	9,709	4,568	3,769	2,292	−613	632	−1,190	251
1931	63,901	5,360	2,940	2,182	1,734	−1,128	162	−2,278	1,748
1932	47,446	2,025	1,606	1,197	713	−1,485	132	−2,018	1,880
1933	46,217	6,421	1,503	866	461	−140	205	−1,598	1,928
1934	55,839	8,530	2,306	1,131	521	415	459	270	3,428
1935	61,681	10,312	3,092	1,260	918	858	181	273	3,730
1936	71,400[a]	14,281	4,134	1,651	1,536	1,355	−179	1,447	4,337
1937	79,400[a]	14,211	5,280	2,294	1,910	891	−5	2,749	1,092
1938	70,800[a]	8,457	3,618	1,776	1,817	−1,400	1,030	−758	2,374
1939	75,710[a]	15,165	4,289	1,852	2,270	907	781	1,415	3,651
1940	82,000[a]	17,580	5,751	2,360	2,431	1,014	1,417	733	3,874

[a] Estimated.

[b] Omits state and local net contribution from 1929 on.

NOTE: For sources and methods, see statement submitted to the Temporary National Economic Committee by Lauchlin Currie on May 16, 1939 (Hearings before the Temporary National Economic Committee, Pt. 9, *Savings and Investment*). See also Oscar L. Altman, *Saving, Investment, and National Income*, T.N.E.C. monog. no. 37 (Washington, Supt. Docs., 1941). These data are revisions of those previously published.

lie largely outside the private domestic economy as such. These items are summarized in the two categories of net foreign balance and of government net contribution. If it were not for the intervention of the government through tariffs and other trade restrictions (and possibly of private business through export dumping and other forms of forcing exports) the net foreign balance, like the items of temporary investment, would tend to average out near zero over a long term of years.[4]

[4] Keynes has shown clearly that maintenance of a large and continuous positive net foreign balance is a form of economic warfare and one of the causes of international warfare. His discussion here seems to suggest the further conclusion that in a stable and peaceful world, where every country had equal opportunity to maintain the employment and increase the welfare of its citizens, net foreign balances would tend to average out at zero

The government net contribution is the final balancing factor between saving and investment. Although public expenditures contain some elements of public or social investment, they also include at times large amounts for relief, old-age grants, farm benefits, defense or military expenditures, and similar items which do not represent the purchase of capital goods. Furthermore, when public works (as the schools or roads built in the 1920's) are in part paid for concurrently from taxes levied on commodities, or which otherwise directly reduce consumers' expenditures for their own consumption, the purchase of real capital goods by public agencies is partly offset by the reduction of consumption purchases by individuals, and so does not use up savings. For these reasons (which are discussed at more length in the basic studies on the subject)[5] the net (adjusted) difference between government re-

TABLE II—INCOME-PRODUCING EXPENDITURES THAT OFFSET SAVING, CLASSIFIED INTO THREE GROUPS

(In millions of dollars)

Year	Permanent (long-time) Private Investment	Temporary (short-time) Private Investment	Quasi-Investment	Total
1921	7,546	27	1,975	9,548
1922	9,585	1,244	1,041	11,870
1923	12,723	4,010	257	16,990
1924	12,879	−745	1,145	13,279
1925	13,939	2,368	728	17,032
1926	14,661	1,894	205	16,760
1927	14,134	525	669	15,328
1928	13,865	923	1,251	16,039
1929	13,913	3,700	−333	17,280
1930	10,629	−1,803	883	9,709
1931	6,856	−3,406	1,910	5,360
1932	3,516	−3,503	2,012	2,025
1933	2,830	−1,738	2,133	3,225
1934	3,958	685	3,887	8,530
1935	5,270	1,131	3,911	10,312
1936	7,321	2,802	4,158	14,281
1937	9,484	3,640	1,087	14,211
1938	7,211	−2,158	3,404	8,457
1939	8,411	2,322	4,432	15,165
1940	10,542	1,747	5,291	17,580

over long periods of time. J. M. Keynes, *The General Theory of Employment, Interest, and Money* (New York, Harcourt Brace, 1935), pp. 333-51.

[5] Testimony by Lauchlin Currie, Hearings before the Temporary National Economic Committee, Pt. 9, *Savings and Investment* (Washington, Supt. Docs., 1940), pp. 3528-29, 4017.

ceipts and government expenditures, although it must be regarded as an offset to saving, cannot be regarded as investment in the conventional sense of expenditure for capital goods.

Net foreign balance and net government contribution are thus items that offset saving in ways quite different from the traditional concept of direct purchase of real capital goods. For that reason, the term *quasi-investment* will be used here to designate the sum of these two items.[6]

The annual investment expenditures, broken down into these three groups, are summarized in Table II.

When these three elements of investment and gross national income are charted (Figure 1), the differences in their behavior are marked. Permanent private investment and national income vary concurrently, with the relative magnitude of variation much higher in investment. Temporary private investment on the contrary tends to be negative in amount during periods of constant or declining business activity. Permanent private investment is apparently associated primarily with the *amount* of national income; temporary private investment, primarily with the *rate of change* of national income.

The extent to which private investment is related to national income is shown more closely in Figure 2. Here the two components, permanent and temporary, are plotted on two dot charts with national income as the other variable. The general positive relation is quite marked, especially for permanent investment. It is clear that national income (or the level of business activity or anticipations which it reflects or engenders) is closely associated with both permanent and temporary investment.

The relation of quasi-investment to national income (Figure 3) has been quite different. From 1921 to 1933 there was a slight negative correlation.[7] Since 1934, with much larger volumes of net government contribution, the correlation has been generally positive, though 1937 falls far out of line with the other observations for this period.

In view of the dissimilarity of behavior, the factors related to permanent private investment and temporary private investment will be examined separately.

[6] Gerhard Colm has suggested that the breakdown of investment into permanent or long-term, temporary or short-term, and quasi-investment might well be extended to saving as well, with particular reference to quasi-saving and quasi-dissaving. Inasmuch as the available data on the makeup of saving are not nearly as adequate as the data on the components of investment, we have not attempted to carry this suggestion through for the present. Salant suggests that the behavior of each of the separate components of quasi-investment, imports, exports, adjusted government receipts, and adjusted government expenditures, might well be studied separately. This has not been attempted in this over-all survey, but is left for subsequent more detailed analyses.

[7] This may have been due to the tendency of government revenue (which is a negative component of net government contribution) to rise with national income, while total expenditures remained relatively constant.

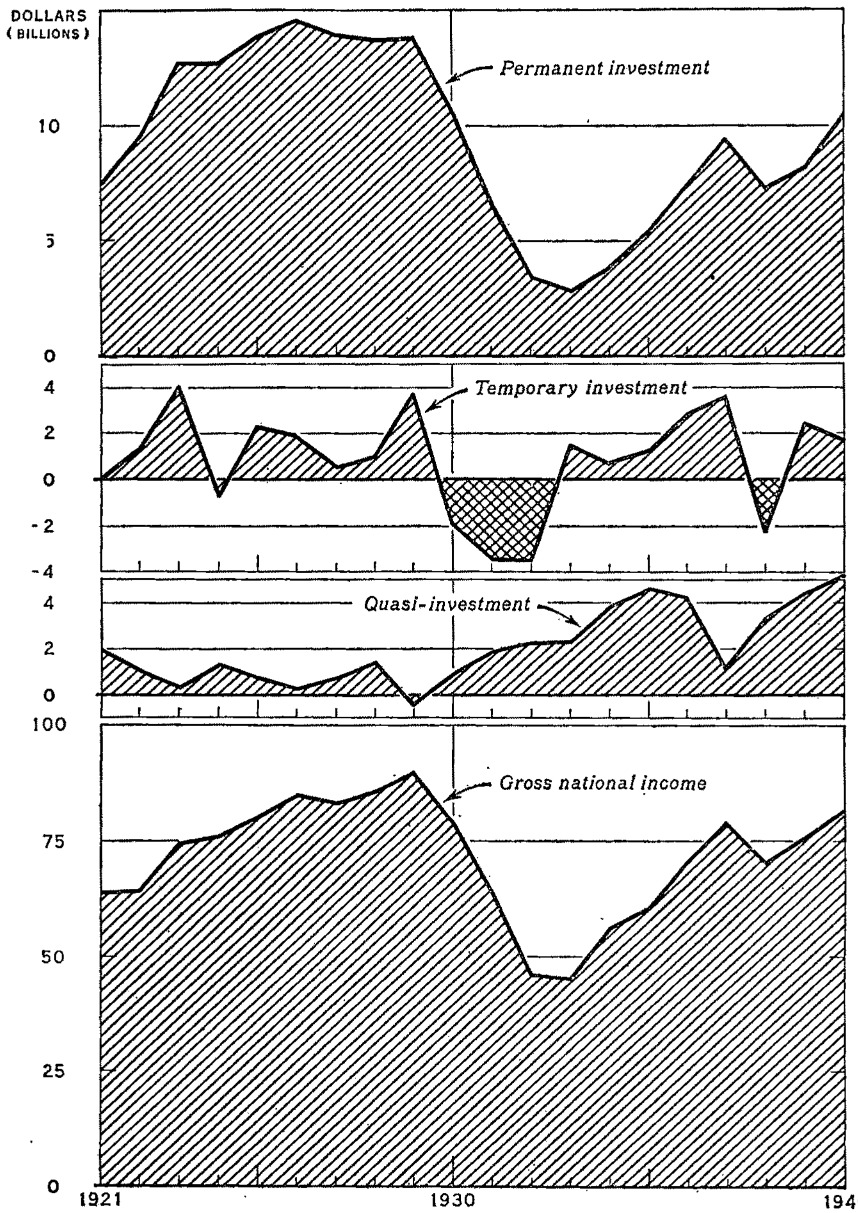

FIG. 1—Investment Components and National Income, 1921-40.

Permanent Private Investment and National Income

Permanent private investment for a given national income was high from 1922 to 1925. Thereafter, permanent investment showed no further increase as national income increased to 1929, indicating a down-

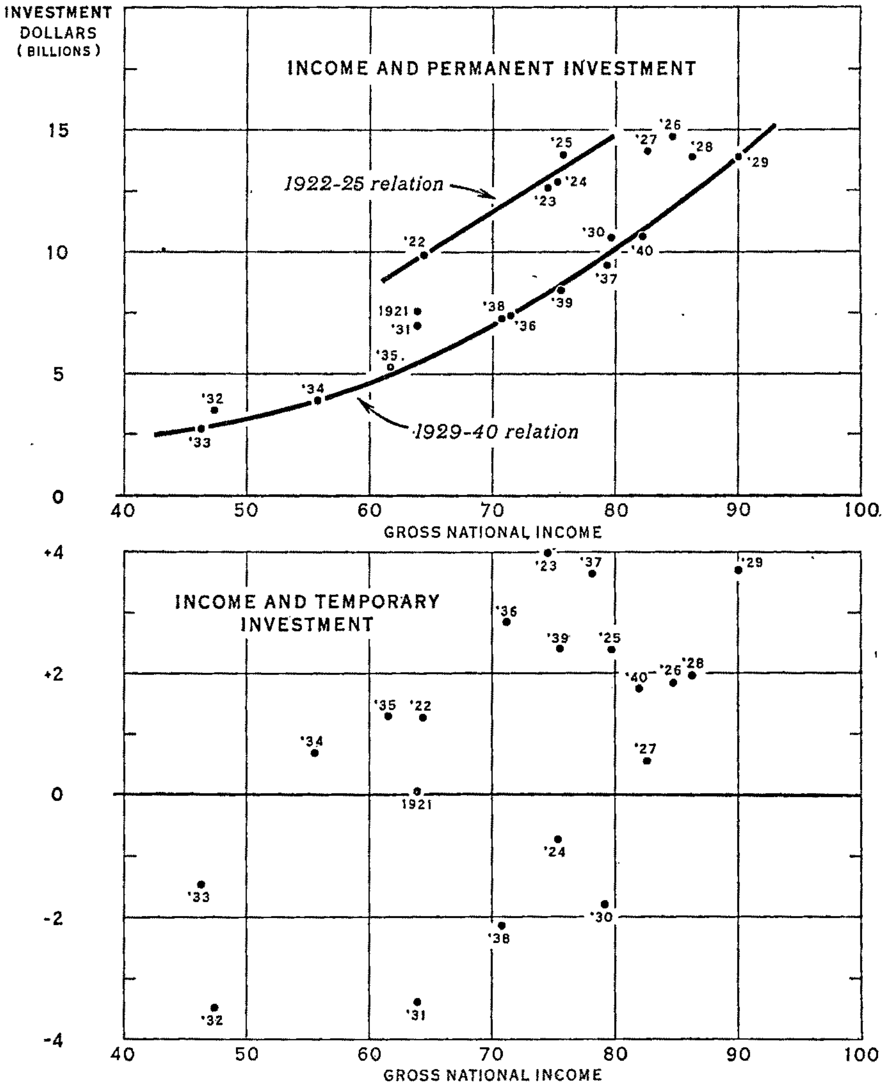

FIG. 2—Private Investment and National Income.

ward shift in the relation of investment to income. Since 1929, permanent investment has varied quite consistently with national income along the line indicated by the lower curved line drawn in free-hand in Figure 2.

This shift in the relation of permanent private investment to national income apparently occurred between 1925 and 1929, and therefore cannot be ascribed to the influence of New Deal legislation or of changes

in "business confidence" often alleged to be associated therewith. It can be explained, however, if we separate housing from other forms of permanent investment (plant and equipment expenditures). These data are given in Table III. This table shows the well-known drop in housing expenditures during the 1930's. It also shows that other items of permanent investment ran nearly as high from 1936 through 1940 as during the 1920's.

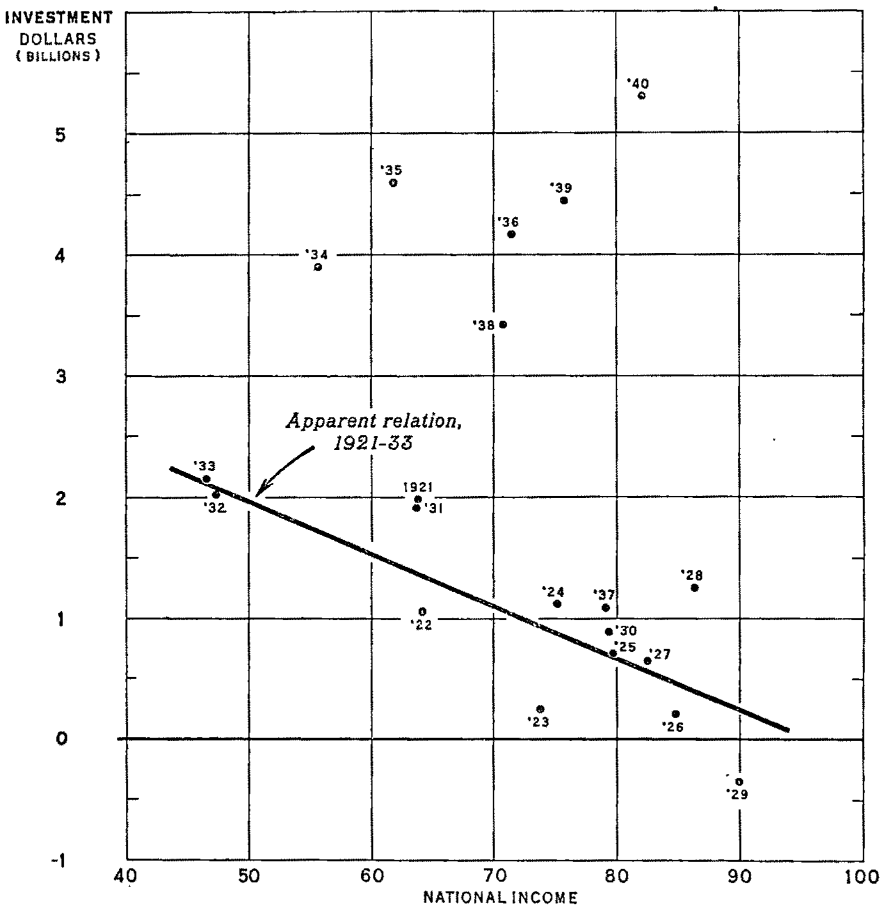

FIG. 3—Quasi-Investment and National Income.

The relation between each of these two categories of permanent investment and national income is indicated in Figure 4. There is some correlation between housing investment and national income (shown on the upper half), but the level of housing investment accompanying

the same national income was more than twice as high in the middle 1920's as it was in the 1930's. Plant and equipment investment, on the contrary (on the lower half), apparently varied closely with national income over both decades.

Plant and equipment expenditure: (a) Related to prior conditions. Economic theory has always held that business men build plant and equipment when they expect that the investment will yield them a profit, and cease building when the expectation of profit vanishes. Any statistical measurement of the conformity of fact with this theory depends upon finding objective indicators of business men's anticipations. In farming, the evidence is very clear that producers (in the absence of governmental controls) take the prices received in the preceding production period or periods as the best indicator of the prices they are likely to receive in the coming production period, and adjust their operations accordingly.[8] If the psychology of business men is similar, they might be expected to base their expectations of future profits, and hence their new investment, on the level of profit or the level of operations in the period just completed, or perhaps on the rate at which those

TABLE III—PERMANENT PRIVATE INVESTMENT SEPARATED INTO TWO COMPONENTS

(In millions of dollars)

Year	Housing	Plant and Equipment	Total
1921	2,313	5,233	7,546
1922	3,801	5,784	9,585
1923	4,821	7,902	12,723
1924	5,229	7,650	12,879
1925	5,750	8,189	13,939
1926	5,535	9,126	14,661
1927	5,357	8,777	14,134
1928	5,019	8,846	13,865
1929	3,764	10,149	13,913
1930	2,292	8,337	10,629
1931	1,734	5,122	6,856
1932	713	2,803	3,516
1933	461	2,369	2,830
1934	521	3,437	3,958
1935	918	4,352	5,270
1936	1,536	5,785	7,321
1937	1,910	7,574	9,484
1938	1,817	5,394	7,211
1939	2,270	6,141	8,411
1940	2,431	8,111	10,542

[8] Mordecai Ezekiel, *Methods of Correlation Analysis* (2nd ed.; New York, Wiley, 1941), pp. 428-29.

levels were changing. Similarly, if interest rates do have any influence on business investment decisions, business men might react to the relation of profit rate to interest rate, rather than to profit rate alone.

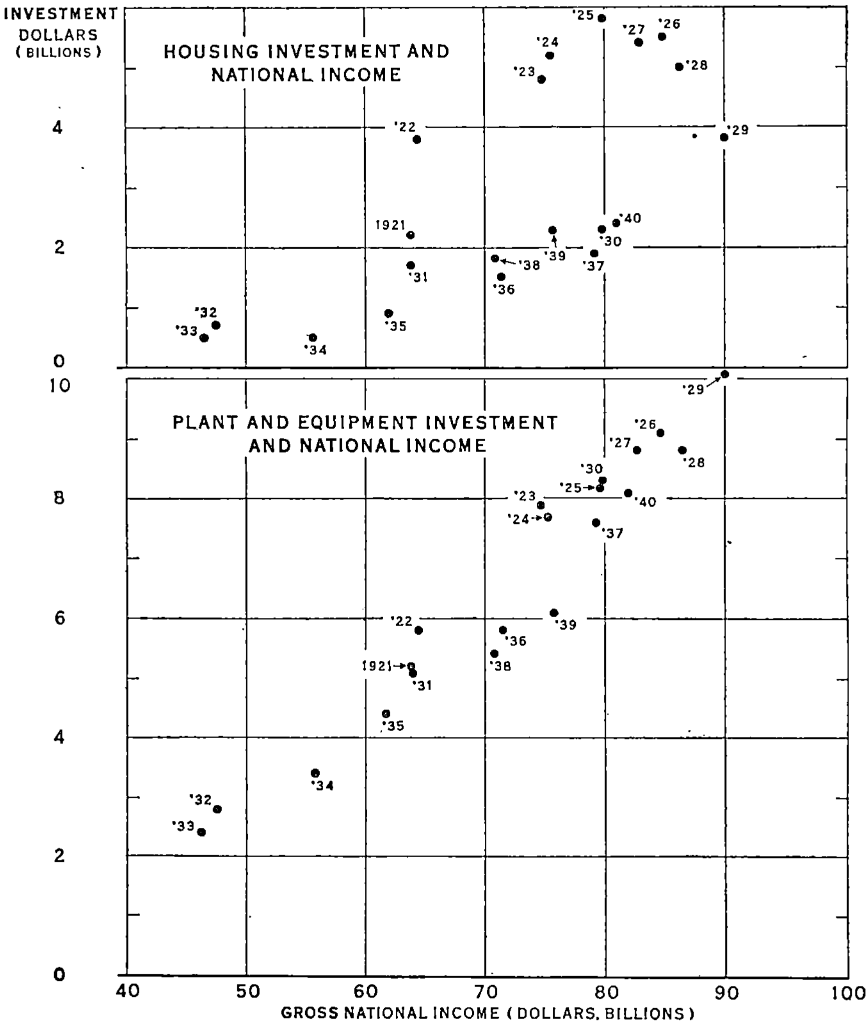

FIG. 4—Two Components of Permanent Investment and National Income.

A large number of tests were made to see if any such relation could be found between business activity or profits and subsequent investment in producers' equipment. The most significant relation discovered was that between corporate profits in one year and plant and equipment investment in the following year. About four-fifths of the variation in

investment was explained by this simple relation.[9] Profits expressed as a percentage of net worth proved less significant than total profits. Inclusion of interest rates, by expressing profit rate relative to the long-time rate of interest (as shown by corporate bond yields) did not improve the relationship significantly. This confirmed several other tests of the effect of interest rates—no significant influence of interest on investment was found in any of the tests.[10] Statistical investigations of business cycle phenomena in Britain yielded the same result, that the rate of interest has not been an important determinant of investment activity.[11]

The data indicate that current conditions as well as antecedent conditions influence business investment. Thus in some years when business activity contracted sharply during the year, as in 1930 and 1938, investment fell off by much more than would have been expected from the profits of the preceding year. When profits of both the preceding and the current year are taken into account, over nine-tenths of the variation in investment could be explained, with profits of the preceding year having a weight almost 50 per cent heavier than the profits of the current year.[12]

[9] The data on profits were the corporate profits before taxes, as given in Martin Taitel, *Profits, Productive Activities, and New Investment,* T.N.E.C. monog. no. 12 (Washington, Supt. Docs., 1941), p. 23. The correlation was $\bar{R}^2_{12} = 0.825$. There was no secular change in the relation—inclusion of a trend factor increased the correlation only to $\bar{R}^2_{1.23} = 0.827$, an increase without statistical significance.

[10] On this point, J. M. Keynes comments: "I am far from fully convinced by the recent thesis that interest rates play a small part in determining the volume of investment. It may be that other influences, such as an increase in demand, often dominate it in starting a movement. But I am quite unconvinced that low interest rates cannot play an enormous part in sustaining investment at a given figure, and when there is a movement from a higher rate to a lower rate in allowing a greater scale of investment to proceed over a very much longer period than would otherwise be possible." In conversation, Keynes has explained his point further by saying that we have never really tried what the effect would be of a very low interest rate, made available to the actual borrowers over a long period. In view of the many institutional factors which Keynes develops (*op. cit.*, pp. 194-209) to explain why actual rates to borrowers never have, and perhaps never will, fall to the very low rates he feels are desirable and necessary, the question as to what would happen if they could be held there may remain purely a theoretical problem for a long time ahead.

[11] E. A. Radice, "A Dynamic Scheme for the British Trade Cycle, 1929-37," *Econometrica,* Jan., 1939, p. 49.

[12] The relationship determined was

$$X_{1(t_0)} = 4.428 + .248X_{2(t_0)} + .332X_{2(t_{-1})} + .012T$$

where $X_{1(t_0)}$ = plant and equipment expenditures, in billions

$X_{2(t_0)}$ = corporate net profit before taxes of the current year, in billions

$X_{2(t_{-1})}$ = corporate net profit before taxes of the preceding year, in billions

T = time, in years

For the twenty years 1921-1940, the correlation was $\bar{R}^2 = .920$, and the standard error of estimate, $\bar{S} = 625$ millions.

Current business levels apparently condition or limit the extent to which prior investment decisions are carried into effect.[13] Half to two-thirds of expenditures for plant and equipment are for replacement rather than for new investment. These replacement expenditures may be even more sharply influenced by current conditions than are plant expansion programs.[14]

Plant and equipment expenditure: (b) Related to current conditions. Business investment is less closely related to current profits than it is to earlier profits. But when business investment is related to the current level of national income, a very close relation is found. (See Figure 4, lower section.) This relation is particularly close when allowance is made for the apparent downward shift evident in Figure 4. Taking both current national income and this downward trend into account, all except 1½ per cent of the variation in investment can be explained by this relation.[15] (Note Figure 5.) This high correlation by itself does not prove either that business investment *causes* national income, or that national income *causes* investment. In fact, as we have just seen, prior profits have a logical and measurable causal influence on investment. The effect of subsequent developments as a limiting factor on investment, however, is apparently very high. Current national income depends upon many factors other than business investment alone. The very high concurrent relation between income and investment indicates that this conditioning or limiting influence of current income upon business investment is a very powerful one.[16]

The downward trend in investment at given levels of current national

[13] These conclusions are confirmed by quarterly data on manufacturers' profits and investment, as given by Lowell J. Chawner, in "Capital Expenditures for Manufacturing Plant and Equipment, 1915-1940," *Survey of Current Business*, vol. xxi, March, 1941. His chart (p. 13) shows that factory capital expenditures usually start to expand *after* an upturn in net profits, but almost always begin to contract as soon as profits turn down.

[14] It would undoubtedly be profitable to make separate studies of plant and equipment expenditures for new capital goods and those for replacement of existing capital goods. This has not been attempted in the present article because of the many technical difficulties in making an accurate division between new capital goods and replacement.

[15] Figure 5 shows the net regression lines obtained by a multiple correlation analysis using the formula, Investment $= f(\text{Income}) + b(\text{Time})$. The curve and trend line were fitted by the graphic successive approximation method. The multiple curvilinear correlation was $P^2 = .985$, and the standard error of estimate 270 million dollars. The curvilinear multiple correlation was found to be significantly higher than the linear multiple correlation. The relation to the two factors explains 98 per cent of the variance in plant and equipment expenditure.

[16] The relation between national income and business investment is quite different from that between national income and total investment or saving, as measured in the preceding article. The dynamic elements present in the latter relation do not appear in the present one. The relation to business investment does not therefore seem to be in any way fortuitous or spurious.

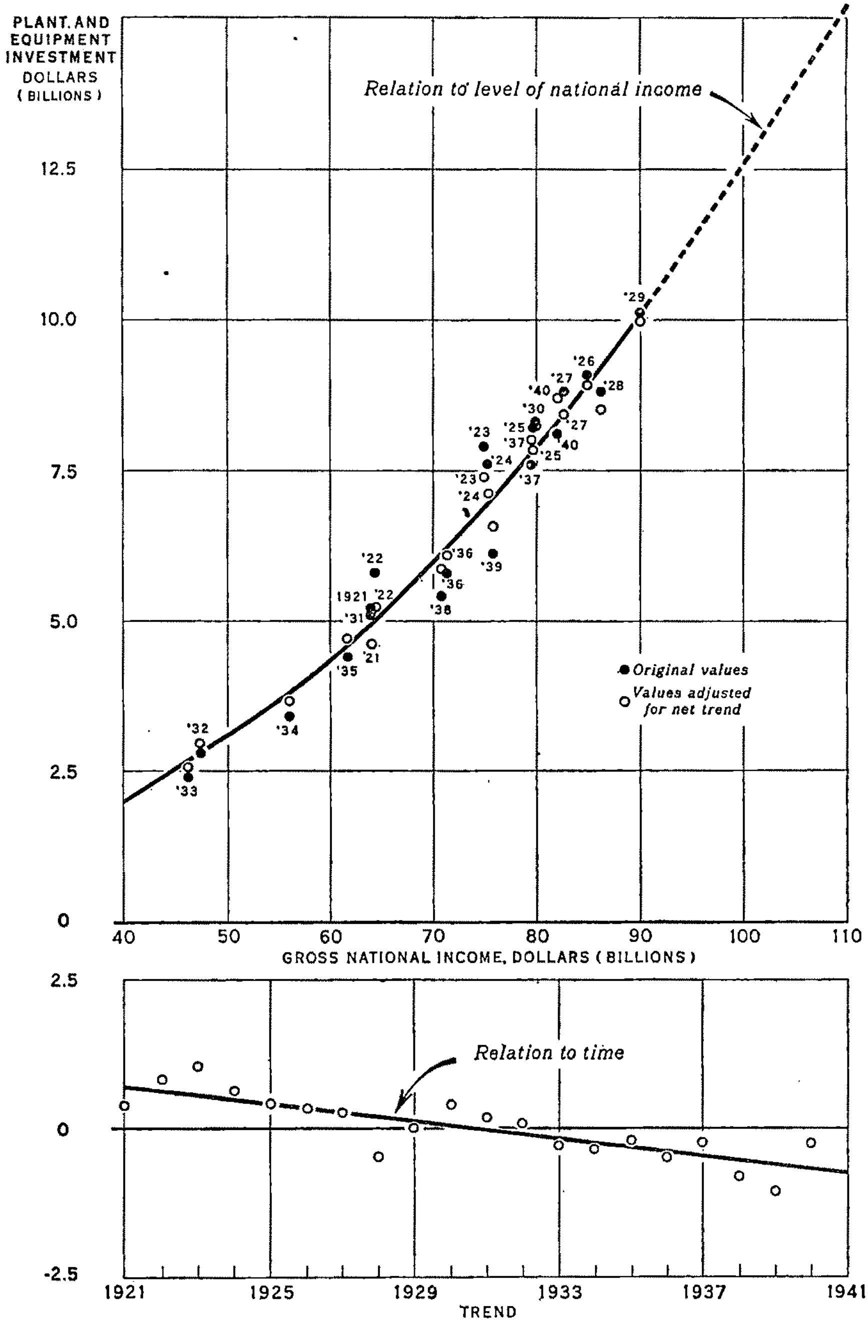

FIG. 5—Factors Related to Plant and Equipment Expenditures, 1921-40.

income may reflect the decline in the rate of population growth, with consequent slowing down in the entire rate of national industrial expansion. An alternative explanation relates to the cost and durability of machinery. Better steels, better design, and improvements in the efficiency of machine tools may make it possible to get the same productive power with a constantly declining cash investment, just as the real cost of automobile transportation has had a definite downward trend. To the extent this is so, a declining proportion of the national income may be sufficient to produce the same net increase in producers' equipment.[17]

This over-all analysis may cover up diverse relations of activity to business investment which characterize individual industries. An industry-by-industry analysis of the relations would clear up this possibility. In such a detailed analysis it might also be possible to take into account the total stock of capital goods in each industry and the degree of utilization of existing capacity, to determine the marginal efficiency of additional plant and equipment. Thus, in the electric power industry, superficial examination of the data suggests that the relation between current capacity and current output is a major factor influencing plant expansion, with a large and rapid expansion following each period when current output begins to press closely upon installed capacity.

New capital expenditures may of course originate independently of the factors which we have used in making analyses. The development of new industries and new products seems to have been an important determinant of the level of these expenditures in the past. Such factors apparently were not of major importance during the period under study.

Business investment thus seems to be related both to previous changes in profits, and to current changes in national income. As will be shown subsequently, other types of investment are dynamically related to income changes. With these concurrent and lagging relations, it would be possible to set up a realistic dynamic model which would reproduce the general patterns of the continuous fluctuations of the past twenty years. That has not been attempted in this article.[18]

Housing investment. Housing investment is apparently related to forces other than the current national income. These forces can be separated by fitting a trend to the relation shown in the upper portion of Figure 4, and determining how much of the variation can be ex-

[17] Dr. Colm suggests that the development from "competitive" investments to "administered" investments, based on scientific analysis of the market which usually takes under consideration only existing factors and not anticipated expansion in total national income and demand, has something to do with the downward trend in investment.

[18] For examples of such dynamic models, see J. Tinbergen, *An Econometric Approach to Business-Cycle Problems* (Paris, Hermann, 1937); and E. A. Radice, *op. cit.*

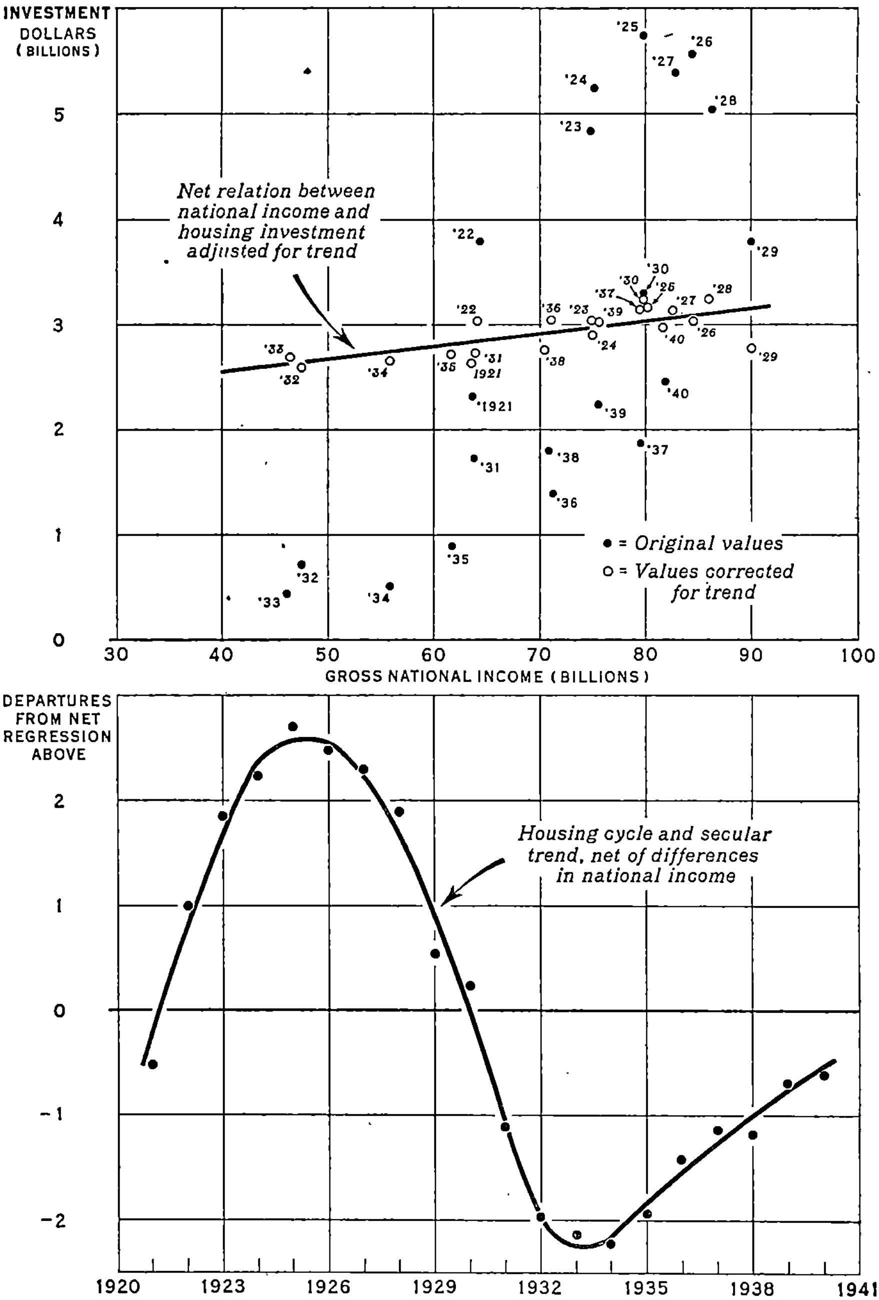

FIG. 6—Factors Associated with Housing Investment.

plained by national income while the secular trend factors are simultaneously held constant. The results secured by this analysis (made by graphic multiple correlation) are shown in Figure 6.

It has been well established that the housing cycle is in part self-generating, and operates partially independently of concurrent changes in industrial activity.[19] If the net trend in the lower portion of Figure 6 is taken as representing the influence of this semi-independent housing cycle upon housing investment, then the net regression line shown in the upper portion would represent the net influence of gross national income upon housing investment while the influence of the long-time housing cycle is held constant at its mean level.[20] The lower level of the trend during the housing recovery in the thirties may reflect the lower price level and also technological changes in the housing industry, with smaller houses and lower costs per dwelling unit.

The net housing cycle shown in the lower portion of Figure 6 offers an interesting comparison with the net trends in the levels of the saving and investment functions, as shown in the lower portions of Figures 6 and 9 of the preceding article. The housing and saving trends were high in the twenties, declining in the late twenties, very low in the early thirties, and rising in the late thirties. These similarities of movement suggest that differences in the phase of the housing cycle may influence the levels of saving and consumption as well as of investment. The way new housing is financed largely by sale to individual families upon the amortization plan may mean that purchase of a home puts increased pressure on a family to save even with no change in income level.[21]

The relations shown in Figures 5 and 6 can now be consolidated to show the net change in private investment in the twenties and in the thirties which was associated with differences in the level of gross national income. In making these calculations, the housing investment is adjusted to the average level of the housing cycle in each of the two decades, and plant and equipment investment is adjusted for the average of trend in each decade. The results are as follows:

[19] Clarence D. Lang, "Long Cycles in Building, 1865-1935," *Quart. Jour. of Econ.*, vol. liii, May, 1939, pp. 371-403. J. B. D. Derksen, "Long Cycles in Residential Building: An Explanation," *Econometrica*, vol. 8, April, 1940, pp. 97-116.

[20] The intercorrelation between time and the national income values is so high in this period that there is little statistical reliability in the measurement of these two net regressions. In preparing Figure 6, the slope of the net regression of housing investment on national income could be drawn considerably steeper with equal closeness of fit. The statistical evidence here is thus not conclusive as to how far housing investment depends on national income, and how far on independent elements of the housing cycle.

[21] Keynes's remarks about the effect of Building Societies' sinking-funds on savings are interesting in this connection. *Op. cit.*, p. 101.

TABLE A—CALCULATION OF PRIVATE PERMANENT INVESTMENT ASSOCIATED WITH VARIOUS LEVELS OF NATIONAL INCOME

(In billions of dollars)

Gross National Income	1920 Decade			1930 Decade		
	Plant and Equipment[a]	Housing[b]	Total	Plant and Equipment[a]	Housing[b]	Total
40	(2.35)[c]	(3.90)	(6.25)	1.65	1.25	2.90
50	3.45	4.05	7.50	2.75	1.40	4.15
60	4.65	4.20	8.85	3.95	1.55	5.50
65	5.45	4.28	9.73	4.75	1.63	6.38
70	6.35	4.35	10.70	5.65	1.70	7.35
80	8.25	4.50	12.75	7.55	1.85	9.40
85	9.30	4.58	13.88	(8.60)	(1.93)	(10.53)
90	10.45	4.65	15.10	(9.75)	(2.00)	(11.75)
100	(12.95)	(4.80)	(17.75)	(12.25)	(2.15)	(14.40)
110	(15.55)	(4.95)	(20.50)	(14.85)	(2.30)	(17.15)

Trend readings for plant and equipment: average 1920's = +.35; average 1930's = −.35
Trend readings for housing: average 1920's = +1.45; average 1930's = −1.20

[a] From Figure 5.

[b] From Figure 6.

[c] Data shown in parentheses represent extrapolations beyond the range of the observations on which the relations were based.

The major influence of the phase of the housing cycle upon the level of permanent investment is clearly apparent from these calculations.

Temporary Investment and National Income

The way in which temporary investment is associated with *changes* in national income has already been pointed out in connection with Figures 1 and 2. This relation can be seen more clearly by plotting temporary investment against the change in national income from that of the previous year. This comparison is shown in Figure 7. The general relation between change in gross national income and the amount of temporary investment is striking. Temporary investment itself represents merely the *changes* in the total amount of consumer credit outstanding, and in the total amount of business inventories, so this relationship is what one might expect. Apparently variations in national income are associated with parallel variations in the totals of consumer credit and business inventories, so that the first differences in the two series have the positive correlation shown. When income is rising, the rising consumer credit and inventory volumes absorb investment funds, and thus make an outlet for saving; when income is falling, consumers pay off their credit and businesses contract their inventories, and thus release funds for other uses.[22]

[22] Keynes and Salant both suggest that combining temporary investment in consumers' goods and temporary investment in working capital may combine two elements which

Figure 7 shows that in two years—1921 and 1934—temporary investment differed greatly from other years with similar changes in income levels. The year 1921 was one of low business activity as compared with 1920. The low point in industrial activity, however, occurred in the spring, and there was a strong upward movement during the balance of the year. Despite the low level of income for the year, this advancing

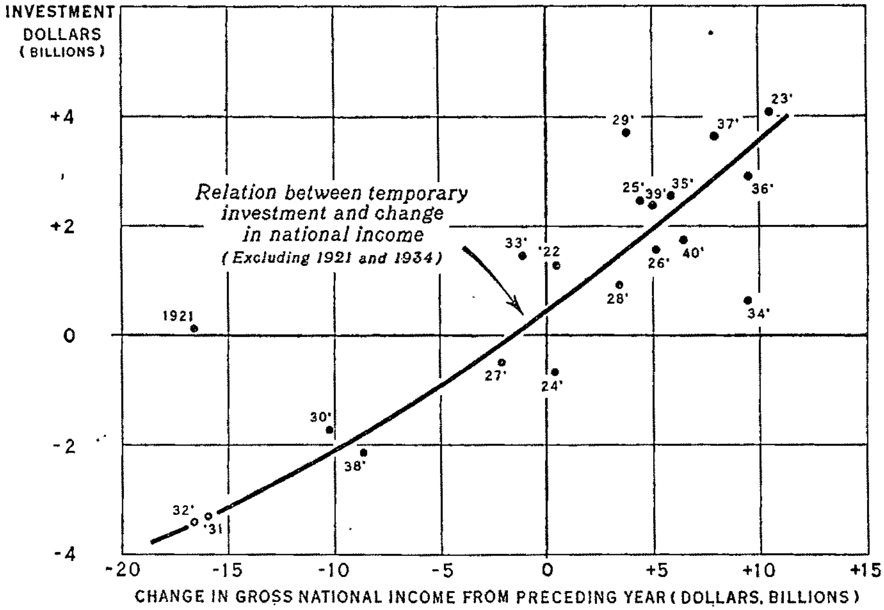

FIG. 7—Factors Associated with Temporary Investment.

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behave in different ways and thus obscure the true facts. Keynes says, commenting on these statements: "As regards temporary investment, I think it most important to distinguish two kinds of it; namely, temporary investment or disinvestment in stocks of consumer goods and in stocks of working capital. This distinction is important because these two types of temporary investment are likely to move in opposite directions, so that the true movements are obscured if one adds them together. . . . Take the case where there has been an unforeseen increase in permanent investment. During the period of increase from one level of permanent investment to a higher level there will be an important increment of working capital. On the other hand, the increase in consumers' purchasing power, unaccompanied by any immediate comparably increased output of consumers' goods, will be accompanied by a reduction in stocks of consumers' goods. Similarly, in a period of incipient depression, working capital will fall off and stocks of consumers' goods will pile up. Thus you lose an important clue by adding these together. . . ." It is theoretically possible for the two elements of temporary investment to react in opposite directions. During the two decades under study, however, there were only two years in which the sign of the two series (plus or minus) was different, and in one of these the difference was an insignificant amount. It appears that during the period covered by this analysis the behavior of these two items of temporary investment was sufficiently similar to combine them for the sake of this over-all analysis. More detailed investigations might appropriately study the behavior of each of these components separately.

trend through most of the year apparently checked the negative temporary investment which might have been expected with the current reduced level of national income. In 1934 the situation was reversed, with a sharp decline in industrial production from spring to late fall. Apparently this six-month reaction offset part of the usual effect of the higher level of income on temporary investment.[23] Excluding these two years when erratic short-time movements disturbed the usual relation, a curve has been drawn in on Figure 7 showing the apparent average relation between changes in gross national income and the amount of temporary investment.[24]

The large amplitude of variation in temporary private investment is important. Figure 7 shows a usual swing in temporary investment from —3½ billion dollars in years of sharply declining activity to +3½ billions in years of rapid increase in income. This total swing of 7 billions in the amount of temporary investment compares with a difference of 6 billions in the amount of permanent investment as between a 60-billion dollar and a 90-billion level of national income, as shown in Table A for the decade of the 1920's. Excluding the changes in investment due to the phase of the housing cycle, and considering only those changes in private investment which vary with the level of national income itself, it appears that the swings in temporary investment are just as important in explaining the total amount of investment as are the proportionately less intense changes in permanent investment.[25]

Quasi-Investment and National Income

It has already been pointed out that Figure 3 shows a negative relation between quasi-investment and national income prior to 1934. This

[23] The relation between short-time changes in business activity and income and changes in temporary investment within the year could be determined more accurately by a study of quarterly or monthly data. These are available only back to 1929. The quarterly data for 1934 are consistent with the explanation offered above.

[24] It would be reasonable to expect that the willingness to make expenditures for additions to inventories, or through increases in consumers' credits, would be influenced by the total level of inventories and consumers' credits as well as by the changes in income. Thus if inventories were already high, business men might be less willing to increase them further than if they were low. No evidence to confirm this theory was found, however, on study of the annual data from this point of view.

[25] This analysis shows that the amplitude of temporary investment associated with the changes in income is of the same order of magnitude as the amplitude of permanent investment associated with the level of income. This fact may be of great importance in dealing with the problem as to whether the saving-investment phenomena are such as to produce a damped cycle in business activity or a continuously fluctuating cycle. On purely theoretical grounds Smithies came to the conclusion "the existence of a non-cyclical solution depends on either *A* or *B* being sufficiently great relative to the other for its effect always to dominate the situation." (His *A* and *B* reflect the static and the dynamic elements, respectively.) The realistic parameters from this empirical analysis suggest far-reaching theoretical implications, when joined with the theoretical expectations of his process analysis. See A. Smithies, "Process Analysis and Equilibrium Analysis," *Econometrica*, Jan., 1942, pp. 26-38.

negative relation apparently reflects the inflexible character of most government expenditures, at least over short periods, as compared with the immediate and automatic effects of changes in national income upon the public revenues derived from an unchanging tax structure. Net foreign balances, too, may react in somewhat the same way, since the level of our imports responds immediately to good or bad domestic business conditions, while the level of exports may not be quite so sensitive. Both of these matters require further study before definitive conclusions could be reached. Since 1933 there has been a less definite relation between the level of national income and quasi-investment. Changes in national fiscal or defense policy, rather than the impersonal effect of economic conditions, have apparently been the controlling influence in this later period. Thus 1937 and 1939, both years of about the same national income, varied by 3 billion dollars in the total of quasi-investment.

We can, however, fit a rough line to the data shown in Figure 3 for the years 1921 to 1933, and use this line as an expression of the average relation between national income and quasi-investment prior to the time that public expenditure and taxes became conscious and recognized means for government to use in influencing the levels of economic activity. This approximate regression is shown in Figure 3.

B. *The Saving-Investment Equilibrium in the 1920's and 1930's*

National Income and Corresponding Private Investment

This analysis of the three components of investment has given us, for the 1920's and 1930's, approximate measures of the amount of private investment which was associated with a given level of national income, while holding constant the other major factors related to investment —change in the level of the housing cycle, change in the level of national income itself, and quasi-investment.

Because of the major relation between *change* in national income and investment, the amount of private investment will be quite different when we consider investment at maintained or static levels of national income, or investment at changing levels of national income. Let us first calculate what private investment would have been at each of several levels of national income, on the assumption that income had remained steady at each such level for two or three years in succession. The calculations will have to be made separately for the 1920's and the 1930's, in view of the difference in the level of the housing cycle in the two periods.

If instead of making this assumption of a static level of national income, we calculated what investment would have been over a series of

TABLE B—CALCULATION OF TOTAL PRIVATE INVESTMENT AT VARIOUS STATIC LEVELS OF NATIONAL INCOME

(In billions of dollars)

Gross National Income	1920 Decade			1930 Decade		
	Permanent Investment[a]	Temporary Investment[b]	Total Private Investment	Permanent Investment[a]	Temporary Investment[b]	Total Private Investment
40	(6.25)[c]	0.5	(6.75)	(2.90)[c]	0.5	(3.40)
50	(7.50)	0.5	(8.00)	4.15	0.5	4.65
60	8.85	0.5	9.35	5.50	0.5	6.00
70	10.70	0.5	11.20	7.35	0.5	7.85
80	12.75	0.5	13.25	9.40	0.5	9.90
90	15.10	0.5	15.60	(11.75)	0.5	(12.25)
100	(17.75)	0.5	(18.25)	(14.40)	0.5	(14.90)
110	(20.50)	0.5	(21.00)	(17.15)	0.5	(17.65)

[a] From Table A.
[b] From Figure 7.
[c] Data in parentheses represent extrapolations beyond the range of the observations on which the relations were based.

years of changing income, the results would be quite different. Let us assume that income varies over a succession of years, as shown in Table C. Under the conditions of the 1920's, the associated private investment would have been as shown in Table C (see page 294).

The results in Table C illustrate how differently investment behaves when income is falling from when it is static or rising. At 80 billion dollars national income, with income declining at 10 billions a year, total private investment (in the 1920's) ran about 11 billions; at the same national income, when income was rising at the same rate, it ran about 16 billions. Comparing Table C with Table B, we see that the total private investment associated with a 70-billion level of national income with income rising at 10 billions a year is about as large as it would be at a static level of 85 billions a year.

Saving versus Private Investment

Under static conditions. We are ready now to examine hypothesis 3, on the balance between saving and investment. This involves comparing the functional relation of saving and income with the apparent functional relation of investment and income. To this point we have made rough measurements of the relations between gross national income and total saving and between national income and various types of private investment, while eliminating the influence of some of the other related factors. We have found that dynamic elements as well as static elements are present in both the relation to saving and the relation to

investment. We can compare the saving function with the apparent investment function on either a static basis or a dynamic basis. Let us first consider the static relations.

Table B shows the usual private investment which upon the basis of data for the past twenty years would accompany various static levels of national income. Let us now compare that with the usual total saving made at the same static levels of national income, according to the relations shown in Figure 6 of Part I. Since we calculated our investment

TABLE C—CALCULATION OF PRIVATE INVESTMENT AT VARIOUS DYNAMIC LEVELS OF NATIONAL INCOME, UNDER CONDITIONS OF 1920'S

(In billions of dollars)

Year in Sequence	Gross National Income	Permanent Investment[a]	Temporary Investment[b]	Total Private Investment
1	90	—	—	—
2	80	12.75	−2.10	10.65
3	70	10.70	−2.10	8.60
4	60	8.85	−2.10	6.75
5	50	7.50	−2.10	5.40
6	40	6.25	−2.10	4.15
7	50	7.50	+3.60	11.10
8	60	8.85	+3.60	12.45
9	70	10.70	+3.60	14.30
10	80	12.75	+3.60	16.35
11	90	15.10	+3.60	18.70
12	100	(17.75)[c]	(+3.60)	(21.35)
13	110	(20.50)	(+3.60)	(24.10)
14	110	(20.50)	0.5	(21.00)

[a] From Table A.
[b] From Figure 7.
[c] Extrapolations, as in previous tables.

according to the average levels for the 1920's and the 1930's, let us use the mid-points on the trend line, in 1926 and 1936, respectively, in calculating the average saving. The results are shown in Table D.

The data shown in Table D are charted in Figure 8. The upper portion of the chart, for the conditions of the 1920's, shows that a static equilibrium between saving and private investment, with no quasi-investment from public finances or from net foreign balances, would have been reached at a level of gross national income of about 70 billion dollars. In comparison with the 90 billion dollars of gross national income in 1929, this shows that even in the 1920's the point of static equilibrium between saving and private investment was materially lower than the full employment level, and that the higher average level of income in that decade was maintained only through the aid of

continuous quasi-investment, either public financing or net foreign balances from capital exports.

In the 1930's, on the contrary, the point of static equilibrium between saving and private investment alone was apparently lower than the smallest national income experienced in that decade. Within the income range experienced in the 1930's, the gap between saving and private investment became steadily wider as national income rose, increasing from about one billion dollars at a 50-billion income level to

TABLE D—PROPENSITIES TO INVEST PRIVATELY AND TO SAVE, AT VARIOUS STATIC LEVELS OF NATIONAL INCOME

(In billions of dollars)

Gross National Income	1920 Decade		1930 Decade	
	Saving[a]	Private[b] Investment	Saving[a]	Private[b] Investment
40	(4.65)[c]	(6.75)	(3.7)	(3.40)
50	(6.50)	(8.00)	5.55	4.65
60	8.65	9.35	7.7	6.00
70	11.25	11.20	10.3	7.85
80	14.15	13.25	13.2	9.90
90	17.45	15.60	(16.5)	(12.25)
100	(20.95)	(18.25)	(20.0)	(14.90)
110	(24.75)	(21.00)	(23.8)	(17.65)

[a] Readings from first curve of Figure 6, Part I (*Am. Econ. Rev.*, Vol. xxxii, March, 1942, pp. 22–49), plus trend readings from bottom curve: for 1920's, −0.25; for 1930's, −1.2.
[b] From Table B.
[c] Extrapolations, as in previous tables.

3½ billions at an 80-billion income level. Under those conditions, large net public contributions to buying power helped maintain employment and income, but any time the public expenditures were withdrawn, industrial activity and income would promptly decline. So long as the propensities to save and invest in private investment remain at the levels indicated in the lower portions of Figure 8, continued large net public expenditures (or an even more marked mercantilistic foreign trade and foreign investment policy than prevailed in the 1920's) would be necessary to maintain even a modest level of national income.[26]

Under dynamic conditions. Dynamic elements are present in both the factors related to the propensity to save and in factors related to

[26] The gap between saving and private investment is not wholly determined by saving. Instead, the amount of saving is partly determined by the existence of a gap between planned saving and planned private investment. This gap can be closed either by factors operating on the investment side or on the saving side. For instance, the dissaving resulting from business losses or from the borrowing of the unemployed may be an equilibrating factor as well as unplanned variations in temporary investment and quasi-investment.

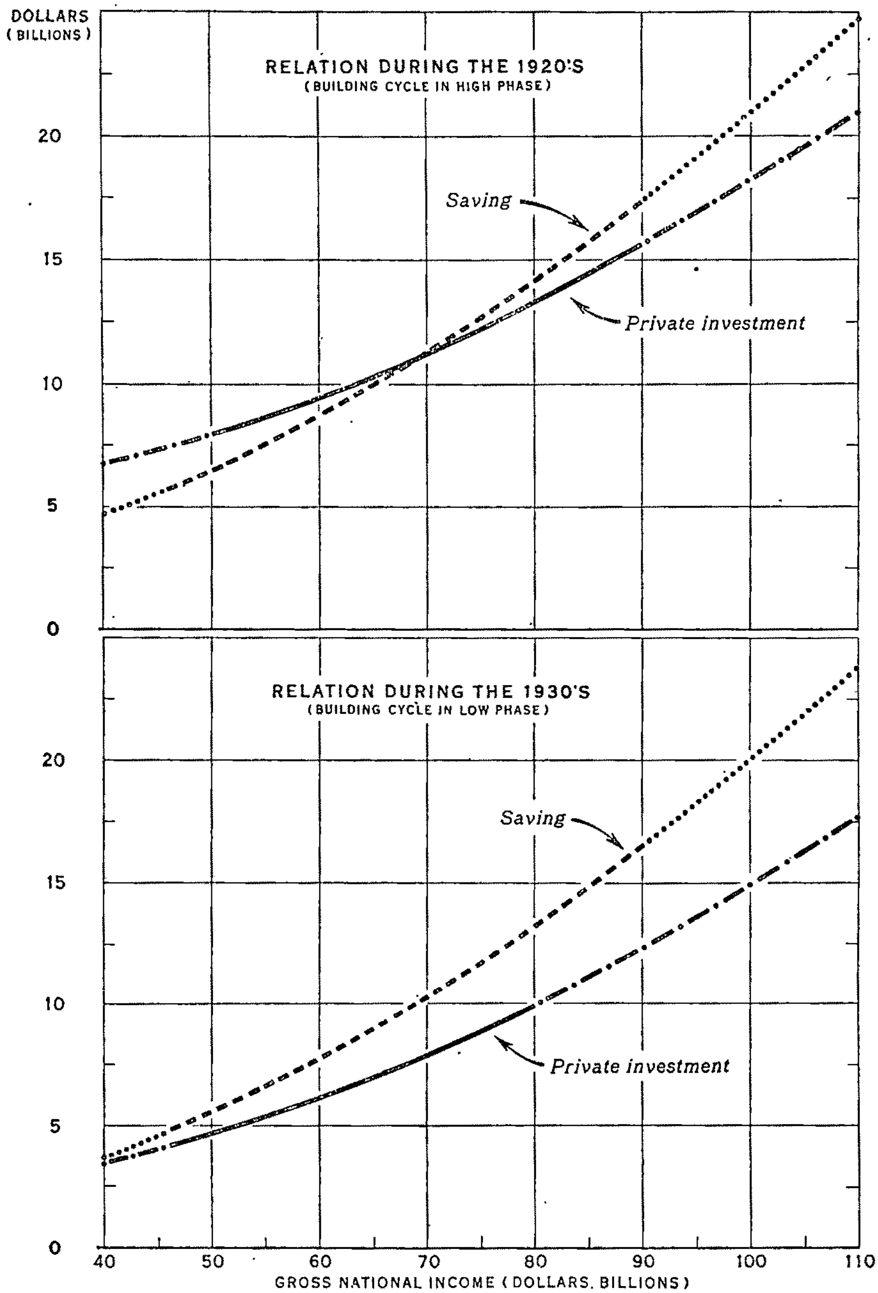


FIG. 8—Total Saving and Private Investment Expected for Given Levels of Income under Static Conditions.

the propensity to consume. On the saving side, saving rises or falls together with the extent of *change* in national income; on the investment side, temporary investment varies markedly with the changes in national income. These two dynamic elements may be compared as follows:

TABLE E—FUNCTIONAL RELATIONS OF GROSS NATIONAL INCOME TO SAVING AND PRIVATE INVESTMENT

(In billions of dollars)

Change in Gross National Income	Addition to Saving[a]	Temporary Investment[b]
−15	−3.0	−3.4
−10	−2.0	−2.1
0	0	+0.5
+5	+1.0	+2.0
+10	+2.0	+3.6

[a] From Figure 6 of Part I.
[b] From Figure 7 of this article.

These two dynamic factors tend to parallel one another.[27] This may explain why in boom periods there can be a temporary equilibrium between saving and investment at levels materially higher than could be maintained at a continuing or static equilibrium.

The dynamic relations between saving and investment can be further illustrated by comparing the two over a series of years of changing income levels, just as was done earlier for investment alone in Table C. Using the same series of changing levels of national income, the comparison is shown in Table F (see page 298).

Table F shows how widely both saving and private investment vary in a dynamic situation, and how the two tend to vary together. When the data are charted (Figure 9), this similarity of movement is again striking. As a result of the dynamic factors, private investment (under the conditions of the 1920's) could apparently about keep in balance with saving all the way up to an 85-billion dollar income on a rising level, but if income had increased above that level saving would have exceeded private investment even under dynamic conditions. Similarly,

[27] The differences between the two columns of Table E are of doubtful statistical significance. They reflect in part the fact that a straight line was used in fitting the regression to $X_{2_{(1-0)}}$ in Figure 6 of Part I, whereas a curve was used in Figure 7. Also, the 1934 observation was excluded in the latter consideration, and not in the former. There is the possibility that both columns of Table E represent merely two measurements of the same thing—first viewed as saving, and then as investment. More detailed analyses, using quarterly or monthly data and determining the extent and degree of lags present, if any, would help to resolve these doubts.

as income fell below the 60-billion mark, saving would shrink to less than the current investment.

These relations suggest that, under the conditions of the 1920's, business cycles would be unable to carry income up above 85 billions, or down below 60 billions, without starting a reverse movement (if only private investment were present). This analysis of the dynamic factors in saving and investment may thus throw some light on why the turning points in business cycles have come where they did. In addition, there is some point at which the dynamic elements themselves

TABLE F—PROPENSITIES TO INVEST AND TO SAVE AT VARIOUS DYNAMIC LEVELS OF NATIONAL INCOME, UNDER CONDITIONS OF 1920'S

(In billions of dollars)

Year in Sequence	Gross National Income	Corresponding Level of Private Investment[a]	Corresponding Level of Saving[b]
1	90	—	—
2	80	10.65	12.15
3	70	8.60	9.25
4	60	6.75	6.65
5	50	5.40	4.50
6	40	4.15	2.65
7	50	11.10	8.50
8	60	12.45	10.65
9	70	14.30	13.25
10	80	16.35	16.15
11	90	18.70	19.45
12	(100)[c]	(21.35)	(22.95)
13	(110)	(24.10)	(26.75)
14	(110)	(21.00)	(24.75)

[a] From Table C.
[b] From Tables D and E.
[c] Extrapolations, as in previous tables.

will change. Once all the old inventories have been used up, or all the accumulated debts paid off, temporary investment cannot continue negative, no matter how rapidly business is still declining. This saturability of the change factors, as well as the relations mentioned above, may also be of importance in determining the timing of business cycle turns.[28]

[28] In this comparison it has been assumed that national income would change from year to year as shown in the first column of Table F. A dynamic model of the type suggested earlier would be necessary to determine what sequence of incomes would be most likely to occur under the conditions assumed. All that is shown here is the probable saving-investment relation *if* the assumed sequence *did* occur.

C. *Investment under Stable Economic Conditions*

Probable Investment

The relations of investment and income which have been described to this point are those which occurred during a period of continuously and widely oscillating economic activity. We attempted to infer the probable investment under static conditions from the records of that period, by removing the variations associated with change. We could not be wholly successful even then. If business men generally chose to

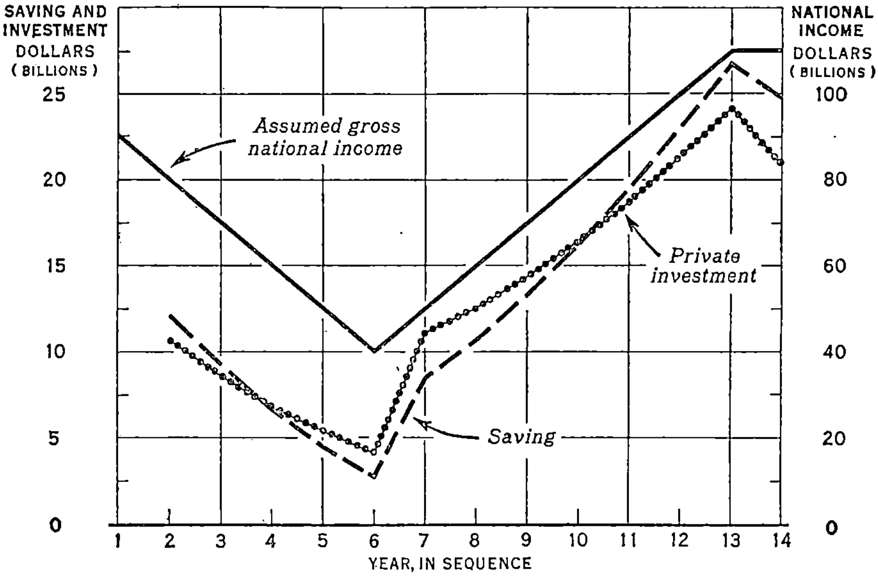


FIG. 9—Total Saving and Private Investment Expected for Given Levels of Income under Dynamic Conditions (and High Phase of Building Cycle).

under-replace depreciation when activity was low, and to over-replace when activity was high, that would still be reflected in the "static" measure of investment at high and low incomes. When we note from Table A that at 60 billion dollars income we had (in the 1920's) 4.65 billions of investment in plant and equipment, and at 90 billion dollars we had 10.45, we can see that an acceleration factor must have influenced the results. Surely it would not continuously take more than twice as much plant and equipment investment to maintain an income only 50 per cent greater.

When we look to the future, and ask what the investment-income relation would be if economic activity in the post-war world could be made more stable, we wish to estimate investment under conditions

quite different from the recurrent booms and depressions of the past. Once we are through the immediate post-war period of rebuilding and restoring the war devastation, the object of economic policy should be to maintain continuously thereafter reasonably full employment and production. That does not imply a static economy operating at unchanging levels of income, but rather a steadily progressing economy. The national income should rise steadily at the rate commensurate with both population growth and rising productivity per worker.[29]

Our analysis of investment under the widely fluctuating conditions of recent years throws little light on the question of what annual investment would be needed to sustain a steadily rising level of income. What is desired is to estimate probable investment under such more stable conditions. One approach can be made by using the average investment over the past period as a whole, rather than the year-to-year variations. From 1921 to 1940 we expanded our productive equipment from one capable of turning out about 75 billion dollars' worth of goods and services a year (in 1923) to one capable of turning out 82 billions (in 1940), in terms of current dollars.[30] If we take this average rate of progress as a reasonable estimate of probable progress during the future, we could use the ratio of average investment in plant and equipment during these two decades to average national income to estimate the normal investment required per dollar of national income. Gross expenditures for producers' plant and equipment averaged 10.2 per cent of gross national income during this twenty-year period. Assuming 110 billion dollars gross national income as the income which might represent full employment in the early post-war years,[31] this proportion indicates a probable investment of 11.2 billions as the gross plant and equipment investment needed at that income with a stably rising rate. If we assume that the housing cycle post-war will average as high as during the twenties, and extrapolate the relation shown in Figure 6, we would estimate about 5 billion dollars expenditure for housing at a 110-billion income level. (Note Table A.) Adding in the average inventory increase of 0.5 billion, and the average increase in consumers' credit of 0.3 billion, gives a total estimate of private investment (excluding foreign loans) of about 17 billion dollars a year.

The estimate based on the past two decades can be checked against

[29] Presumably real per capita income would not rise quite as fast as real productivity per hour, as some of the increased productivity would go into shorter hours and more vacations, rather than entirely into higher consumption of goods and services.

[30] Adjusting for the lower price level in the thirties, the increase in real product was much greater. In 1929 prices, the increase in productive capacities at successive peak years was from 74 billion dollars in 1923 to 90 billions in 1929, and to 97 billions in 1940.

[31] This assumes a post-war reduction in price level to about the 1935-39 average.

TABLE IV—NATIONAL INCOME, CAPITAL FORMATION, POPULATION GROWTH, AND INCREASE IN PRODUCTIVITY, 1879–1938

Period	Average Real Gross National Product, Per Consuming Unit[a]	Change in Product from Previous Period[b] X_3	Population Increase During the Decade[c] X_2	Gross Capital Formation in per cent of Gross National Product[d] X_1
	dollars	per cent	per cent	per cent
1879–88	463	—	(23.2)	—
1884–93	490	5.8	20.9	21.2
1889–98	536	9.4	18.9	21.2
1894–03	569	6.2	18.6	20.9
1899–08	633	11.2	19.1	20.4
1904–13	688	8.7	16.8	20.2
1909–18	735	6.8	14.2	20.6
1914–23	816	11.0	13.9	21.2
1919–28	951	16.5	14.2	20.2
1924–33	948	−0.3	11.1	16.6
1929–38	875	−7.7	7.2	14.6

Source of data: All except population estimates (X_2) from Kuznets, "Capital Formation, Past and Present." (Paper presented at the meeting of the American Statistical Association, held in New York, December 29, 1941.)

[a] Deflated values, as computed by Kuznets, in 1929 prices.

[b] Based on preceding column, dividing each 10-year average by the average for the decade, 5 years preceding.

[c] Population in the last year of each 10-year period compared with that for the first year (9 years earlier). *Statistical Abstract of the United States, 1940* (Washington, 1941), p. 11.

[d] Based on data in current dollars, as given by Kuznets.

the investment record over a more extended period. Kuznets's study of capital formation since 1879[32] supplies a record of capital formation and gross national product over six decades. These data provide a series of observations of the average investment required to sustain various average levels of national income under varying rates of progress, over periods long enough in each case so that the short-time acceleration and deceleration of investment due to business cycle changes has in large part been eliminated.[33] These long-period averages, shown in Table IV, are far more stable than the yearly data. The decade averages vary between 14.6 per cent and 21.2 per cent of gross national income, whereas Kuznets's corresponding annual estimates of gross capital formation (1919-35) varied between 28.1 per cent and 6.6 per

[32] Simon Kuznets, "Capital Formation, Past and Present." (Paper presented at the meeting of the American Statistical Association, held in New York, December 29, 1941.)

[33] Average investment over low and high periods may exceed that required under stably rising conditions due to unwise and wasted investment encouraged under boom conditions. There is little present basis for judging how much of an overestimate of required investment this would be likely to produce.

cent during the 1920's and 1930's.[34] Our estimate of 17 billions private investment at 110-billion national income, or 15.5 per cent of gross national income, falls near the bottom of the range shown by Kusnets's decade averages.

The proportion of gross national income devoted to gross capital formation varied considerably during different decades. In general it was highest in decades in which the population was growing most rapidly, and in which the real product per capita was expanding most rapidly. (The data for these factors also are given in Table IV). After experimentation with these and other factors, it was found that over eight-tenths of the variation in the per cent devoted to capital formation from period to period could be explained by these two factors.[35] From this relation, based on American experience over a long term of years, it is possible to make at least a rough estimate of the requirements for capital formation under future conditions, assuming various future rates of population growth and technological progress.

The estimates of population growth between 1945 and 1954 indicate a prospective population increase of 5.1 per cent during the decade.[36] If we assume that technological progress will continue in the future at the average rate it has during the past, that would give a value for

[34] Simon Kuznets, *National Income and Capital Formation, 1919-35* (New York, Nat. Bur. Econ. Research, 1937) pp. 8, 40. His annual figures on gross capital formation are used for this comparison instead of the figures of offsets to saving shown in Tables 1 to 3. Kuznets' classification differs in some respects from these investment items.

[35] In this analysis, the multiple regression equation determined was:

$X_1 = 14.093 + 0.288X_2 + .171X_3$

where

$X_1 =$ gross capital formation, for each decade, in per cent of gross national income (in current dollars)

$X_2 =$ per cent increase in population during the decade, from the middle of the first year to the middle of the tenth

$X_3 =$ per cent increase in real gross national product per capita, in the given decade over the average for the preceding period (half overlapping), as shown in Table 4.

The multiple correlation was $\overline{R}^2_{1.23} = 0.84$, and the standard error of estimate $\overline{S}_{1.23} = 0.9$. The fact that the individual observations represented decades half overlapping reduces slighty the significance of these results, as the successive observations were not completely independent. In effect, however, these 11 overlapping periods contain the record of what happened during the 12 periods of 5 years each which compose them, so there is not much exaggeration of the number of degrees of freedom involved in the analysis.

Other measures might have been employed in stating X_3, such as determining the average annual growth of real product by fitting a trend line to each 10-year period separately. This cannot be done until the income estimates are available for individual years. It is not believed, however, that the use of such refinements would change the conclusions materially.

The size of the constant in the regression equation, 14, indicates 14 per cent of the national product would be required for gross capital formation even with no change in population or productivity. This compares with about 11 per cent for depletion and depreciation estimated by Kuznets.

[36] *Population: Estimated Future Population, by Age and Sex, 1945-1980. The United States*, Series P-3, No. 15 (Washington: U. S. Dept. of Commerce, Bur. of the Census, July 23, 1941.)

X_3 of 6.8 per cent. (Since this measures the average increase in real per capita production from one 10-year period to another 10-year period beginning at the middle year of the first, or 5 years later, it is equivalent to an increase of 1.3 per cent per year. This is somewhat smaller than the long-time rate of growth in output per capita found by Carl Snyder,[37] just over 2 per cent per year.) At these rates of growth in population and in productivity, the previous experience indicates that gross capital formation of 16.7 per cent of gross national income would be required. For a level of 110-billion dollar national income, this would mean a gross capital formation of 18⅓-billions, somewhat more than the private investment of 17 billions estimated by the previous simpler method.[38]

Either of these estimates of probable investment differs materially from the estimate which could be derived from Table A. That table gives 20.5 billions as the probable investment at 110-billion income under static conditions, with the higher phase of the housing cycle. Adding on the 0.8 billions for average annual growth in consumers' credit and inventories brings it up to 21.3 billions, or considerably above the comparable estimates of 17 billions based on the average relation for the 1920's, or of 18⅓ billions based on the longer series, with an assumed somewhat higher average rate of technological expansion. It is quite clear that, if we were to apply the relation of income and investment observed under widely varying levels of income to estimate the amounts which could be privately invested under more stable but high levels of income, we would materially overestimate the probable amount.

Saving versus Investment under Stable Economic Conditions

The previous calculations may now be brought together to determine the probable gap between saving and private investment under stable conditions of full employment, on the assumption that the other institutional factors (distribution of income, tax rates, etc.) do not differ materially from those which prevailed during the past two decades.

Our previous assumptions as to a steadily rising rate of national income are equivalent[39] to an annual increase of 1.9 per cent in national income (at constant prices) which would mean an increase of 2.1 bil-

[37] Carl Snyder, *Capitalism the Creator* (New York, Macmillan, 1940), p. 415.

[38] Gross capital formation, as defined by Kuznets, differs slightly from gross private investment as calculated here. The former includes capital formation by public agencies and by export investment, but excludes all consumers' capital formation except housing. The latter excludes the first two items, but includes consumers' capital financed through net increases in consumers' credit.

[39] Population was assumed to grow at an average rate of 0.6 per cent a year, and real per capita production to rise at an average annual rate of 1.3 per cent. Real national income then must rise at an annual rate of 100.6×101.3, or 1.9 per cent.

lions upon reaching a 110-billion level. From the relations shown in Figure 6 of the preceding article, we estimate probable saving (say for 1945) with gross income at a 110-billion level, increasing at 2.1 billions per year, at about 23.5 to 25.5 billions of dollars.[40] This compares with a probable level of private investment, just calculated, of about 17 to 18 billions of dollars, leaving a possible gap somewhere between 5.5 and 8.5 billions of dollars.[41] Unless changes in tax structure, in industrial wage and price policy, or in other related factors, change the habits of saving or of private investment significantly from those which prevailed prior to the war, it appears that after the war average annual expenditures of about 5.5 to 8.5 billions of dollars, in public offsets to saving or in foreign investment, would be required to keep the economy running at full employment and with a steadily rising level, at the time that gross national income was crossing the 110-billion level.[42] To the extent that changes in consumption habits, tax structure, or business policies and income distribution should lower the amount of saving made at given income levels, or force an increase in the amount of investment above that hitherto required at the same income level, the average public expenditures necessary to maintain full employment would be reduced.

D. *Suggestions for Further Study*

The studies of saving and investment reported in this and the preceding paper constitute only a reconnaissance study of a very broad

[40] Assuming the trend of saving by 1945 to be at the average level shown in the lower section of Figure 6 in Part I of this article (which means refusing to extrapolate the rising trend into the future in the absence of more positive confirmation of this shift), and calculating the amount for an income of 110 billions and an annual increase of 2.1 billions, gives 25.6 as the actual estimate. (Of this 25 billions is the reading from the upper line of Figure 6 and 0.6 billion is read from the middle line, for the change in national income.) If the upper curve of Figure 6 had been extrapolated as a straight line instead of a curve, however, the estimate would have been about 23.6. In view of the considerable margin of possible error which attaches to estimates from any such extrapolation of a regression line beyond the data on which it is based, it is felt safer to give the estimate in terms of the range shown above. (For the reliability of such extrapolations, see the present author's text, *Methods of Correlation Analysis*, pp. 347-49.)

[41] In boom periods in the past, profits and upper-bracket incomes have increased out of proportion to wages and salaries. The estimated increases in saving assume that this same disproportion would prevail at high levels of national income in the future. Under conditions of high but stable production, as assumed above, it is quite probable that income would not be quite as unequally distributed as this assumes, even without any conscious modification in business price and profit policies. If that should prove to be the case, the level of saving and the size of the gap would be somewhat smaller than estimated here.

[42] This differs materially from the probable size of the gap in the years immediately after the war. Foreign rehabilitation and domestic replenishment of wartime depletion of both producers' and consumers' capital might temporarily raise investment to levels which would close the gap entirely or even threaten inflation. These estimates indicate the possible magnitude of the problem of maintaining employment after the boom of that post-war restocking is completed.

group of problems. In this preliminary exploration many problems have been encountered which it has been necessary to pass by or to subject to only superficial examination. They call for careful and exhaustive analysis, both theoretical and quantitative, before the basic relations can be fully determined. The control of business cycles and the prevention of periodic deep and sustained depressions have been among the most puzzling of all economic problems. Research in this field is important at this time as a background for post-war economic policy.

Some of the more important quantitative studies which remain to be undertaken in the field of saving and investment are:

1. Determination of the size, and study of the behavior, of separate components of savings, particularly of individual and business savings, in relation to national income.
2. Further study of the influence of financial institutions, such as commercial banks, investment trusts, and life insurance companies, upon both saving and investment.
3. Study of the distribution of income as a factor affecting saving and consumption. This requires extension of consumer expenditure studies, particularly with the purpose of determining what actually happens to expenditures when people shift from one income level to another. In addition, attempts should be made to determine what consumer expenditures and saving patterns would be under different distributions of income, assuming stable levels of income or progressively rising levels of income in response to increases in population and to rising productivity per worker.
4. Determination from the standpoint of the foregoing study of a distribution of income which would so modify the consumption and saving habits of individuals that outlets in useful investment could easily be found for the saving which would be done.
5. Studies of the probable effects of particular institutional changes upon consumption and saving habits. This includes among others consideration of the probable effects of specific changes in price, wage, and profit policies; in social security provisions; and in tax structure.
6. Analysis of factors influencing investment decisions in individual industries, including determination of the relation between investment in plant and equipment, and profits, use of capacity, and other internal and external factors.
7. Further development of a stable relation between investment and income with a steadily but gradually rising level of income rather than a widely fluctuating level, as tentatively developed in Section C of the present article.
8. Further study of the apparent private investment-income relation, developed from data for the past two decades (Figures 5 and 6 of this

article). In this connection a breakdown of investment expenditures into those for replacement and those for new investment, already suggested, would be useful.

A great many research studies dealing with various phases of the problems developed here are now being planned in connection with the work of several federal agencies in the field of post-war planning. Future students will need to develop more clearly the general relationships explored here. We must create a continuously more solid and factual basis for this important sector of economic knowledge.

E. *Conclusions*

The results of this general survey of the existing American data, in the present article and the preceding one (Part I), may now be formulated in terms of the hypotheses with which the study began. The results support the validity of the following propositions:

1. The quantity of current income withheld from consumption expenditure (saving) is functionally related both to the current level of income and to the direction and extent of change of that level, increasing as the level of income and production increases.

2. The quantity of current income spent privately for permanent capital goods under conditions of fluctuating activity has responded to previous profits, but has been conditioned by the *current level* of income, while the income spent for temporary private investment has been related to the direction and extent of *change of the level* of income (and hence to the anticipations of future returns which may be associated with those income levels and changes). No evidence could be found that reductions in interest rates stimulated investment during the period studied.

3. The phase of the housing cycle is a major factor related to the amount of investment and is at least a minor factor related to the level of the saving function. The relation of saving to private investment was materially different in the 1920's than in the 1930's, primarily due to the differences in the phase of the housing cycle.

4. Because of the functional relation of the rate of change in income to both saving and investment, the static relation of the two is different from the dynamic relation.

5. As between different static levels of national income, under the conditions of the 1920's, the increase in saving associated with a higher level of national income was larger than the increase in private investment, and the point at which the two were in static equilibrium was far below full production or full employment. Under the conditions of the 1930's, saving was higher than private investment at all levels of national income experienced, and large net additions from public expendi-

tures and foreign balances were necessary to attain an equilibrium, with the size of the gap increasing with the level of national income. Even in the 1920's, material quasi-investments were necessary to maintain the levels of income then realized.

6. With changing levels of income, both saving and private investment ran relatively large on the way up, and relatively small on the way down, with private investment tending to fall below saving as soon as the rise in income passed about 85 billions on the way up, and to remain below until national income fell to about 60 billions on the way down (under conditions of the 1920's).

7. With employment maintained at a high level, and national income rising at a steady rate, the gap between saving and investment would probably be much larger than it has been in past peacetime periods of high but transitory full employment. To maintain stable full employment in the post-war period, saving will have to be reduced or investment supplemented, to an extent averaging 5½ to 8½ billions a year, if full employment is to be maintained at a steadily rising rate around 110 billions of income.

Washington, D.C.

THE INFLATIONARY GAP

I. Meaning and Significance for Policy Making[1]

By Walter S. Salant

In economics, as in ladies' fashions, the war has created a new vogue—the "inflationary gap." Its measurement is the latest and perhaps one of the most popular of the increasing applications of statistics to questions of national economic policy. Since the phrase is now breaking into the newspapers economists are obliged, if only in self-defense, to have a clear understanding of it.

The currency of the phrase is, of course, a reflection of the enormous wartime increase in government spending and the resulting danger of serious inflation. Although the phrase is new, the idea that it represents is familiar; namely, the excess of demand over supply at a specified price, applied to total effective demand, aggregate supply, and some price level. The concept is most often used in connection with tax policy, specifically in calculations of what amounts of additional taxation are required to prevent inflation.

Instead of considering first the meaning or rather the various meanings of the term "inflationary gap" and then considering estimating procedures, it may be more instructive to reverse the order and to consider two estimating procedures first and then to compare their meanings.

All procedures involve a comparison of estimates of the potential real output of goods and services with estimated demand, based upon assumed levels of defense expenditures. In most cases some recent date is taken as a base. It is assumed that the prices of this base date are the ones to be stabilized and therefore that the gap at that date is zero. Consequently, the various supply and demand factors are expressed in terms of changes from that base.

1. The procedure used in a report soon to be published[2] compares the expansion of real output with the increase in defense expenditures (supposedly on the basis of deliveries of defense material) and obtains as a difference the necessary reduction of civilian output. It then estimates the independent change in demand for civilian output that will

[1] A paper presented in New York City on December 29, 1941, to the Econometric Society at its annual meeting.

[2] A report on the amount of taxes needed to avert inflation prepared by Carl Shoup, Milton Friedman, and Ruth Mack for the Carnegie Foundation and the Institute of Public Administration. Since the report has not yet been made public, I am deliberately refraining from describing the estimating procedure in detail and also from appraising it.

occur if no new anti-inflationary measures are adopted. This is done by considering the changes in each component of capital formation (*i.e.*, residential construction, inventory accumulation, plant and equipment expenditure, etc.) and the change in the propensity to consume separately. In order to estimate the autonomous changes in the propensity to consume and in private capital formation it is, of course, necessary to work on certain hypotheses with regard to the distribution of income, the movement of prices, and so on. As a first approximation the independent changes in the propensity to consume and in capital formation are estimated on the assumption that prices and disposable income of consumers are the same as on the base date. In estimating these changes an attempt is made to take into account the effects on demand of direct controls such as priorities and allocations and all other relevant factors. The estimated changes in the propensity to consume and in capital formation are then added to give the total estimated change in private demand for civilian goods.[3] This change in demand is then compared with the necessary change in civilian output. The difference is the amount of reduction in civilian demand that must be brought about by new measures of policy.

If it is found that defense spending will increase by 15 and physical output will increase by 8, civilian output will have to decrease by 7. If it is found further that civilian demand at the disposable income of the base date will, independently of any new policy measure, increase by 2, then steps must be taken not only to prevent this increase of demand but actually to reduce demand by 7. In other words, a total reduction of demand by 7 + 2 or 9 is required. This figure, representing the amount of reduction in civilian demand that must be brought about by special measures, is the inflationary gap according to one definition.

In computing the severity of the measures required to eliminate this gap, it is of course necessary to take into account their secondary effects. It is also necessary to consider what steps are required to fulfill the assumption on which the estimates of change in demand were based. Since the gap was computed on the assumption that disposable consumer income remained unchanged, a gap of zero would still require new measures to be taken. It would still be necessary to keep disposable consumer income the same as it was on the base date, and this would require some kind of action. Thus the quantitative amount of special measures needed would differ from the gap itself on this definition of the gap.

[3] To be strictly correct each of these two components of civilian demand should be reapproximated to take into account the estimated change in the other component. The authors of the report found this to be unnecessary in practice.

This definition of the gap measures the amount by which investment plus the propensity to consume at base date prices and base date disposable consumer incomes exceeds the investment and the propensity to consume which would be consistent with equilibrium of demand and supply. This gap does not measure the increase of investment and total consumption that would occur if no measures were taken to preserve equilibrium, for if no measures were taken the excessive investment and consumption would have secondary effects which would further increase demand. These secondary effects are not measured. This procedure tries to avoid dealing with the functional relationships which would be needed to estimate these secondary effects. For example, it does not deal with the curves of the propensity to consume. It deals with those points on the curves that correspond to the consumer disposable income of the base period. In other words, this method does not measure what would happen if equilibrium is not preserved. It simply estimates the conditions for equilibrium.

2. A second method, developed in the Office of Price Administration, attempts to work with a logically complete system of interdependent quantitative relations representing the demand for goods. In using these relations, however, an attempt is made to take into account new factors that modify them, such as priorities, allocations, rationing, inventory control, etc. Beginning with independent estimates of government expenditures and exports and using certain multiplier relations, the total expansion of national income is worked out. The estimates of government expenditure are, however, first analyzed to see what quantity of various durable goods production they imply. These estimates are in turn compared with the capacity for producing the more important durable goods in order to estimate the limitations that will have to be placed on civilian durable goods expenditure by the allocation authorities. In solving the system, the demand for these goods is not permitted to rise above these limits.

This restriction is an explicit recognition of a point often neglected in discussion of inflation: that allocations and price control limit not only the quantity of scarce goods that can be bought but also the demand for them. If firms cannot get materials required for capital expenditures they will not bid for them and the expenditures will not be made. Furthermore, if a business cannot make a capital expenditure, it is unlikely to divert the funds to any other purpose that will result in new spending and therefore no offsetting increase in demand is likely to occur. In the case of scarce consumer durable goods some diversion of expenditure is likely to occur. Allowance is made for this in the calculations: Total consumer demand is reduced by less than the reduction in demand for the scarce consumer commodities.

The solution of the system gives, simultaneously, *total* effective demand for all goods, net corporate saving, various types of tax receipts, consumer disposable income, consumer expenditure, etc.

These results are then compared with the practically attainable national product measured in the prices at which stabilization is desired. The excess of the calculated total effective demand over this practically attainable total supply represents an inflationary gap, which may be called the *total income gap*. The excess of consumer expenditure over the consumer expenditure that could be satisfied at the desired price level, which can also be obtained by this procedure, represents another inflationary gap which may be called the *consumer expenditure gap*. The calculated consumer expenditure implies a calculated consumer income after taxes. The level of consumer expenditure that can be satisfied at the desired prices of consumers' goods also implies a certain level of consumer income after taxes. The difference between this calculated and the equilibrium consumer incomes after taxes represents another inflationary gap, which may be called the *disposable consumer income gap*. There are still more inflationary gaps that could be enumerated, but further enumeration would add nothing.

All the gaps that emerge from this second procedure differ from the gap obtained in the Shoup-Friedman-Mack procedure in being total gaps; that is, they are the excess of total income (or of consumer expenditure or of disposable consumer income) after allowance is made for the secondary spending. The reduction of investment which is required to eliminate these gaps is a fraction of them. The Shoup-Friedman-Mack gap, on the other hand, might be called a primary or a saving-investment gap. It does not take account of secondary spending that would take place if it is not eliminated. It will always be less than the total income gap unless there are no secondary effects.

Still another gap is the tax gap, or the amount of taxes that would have to be raised to eliminate the gap. Within this category there are two cross-classifications.

(a) The amount of taxes required to eliminate one gap is not necessarily the same as the amount required to eliminate another. For example, the consumer expenditure gap might be eliminated by one amount of taxation while a higher amount might be required to eliminate the total expenditure gap. In other words, there are several tax gaps depending upon what excessive demand one wishes to eliminate.

(b) The amount of additional revenue required to achieve any given reduction of demand depends on the nature of the new taxation. New revenues of 2 billion dollars raised by a sales tax may be equivalent to additional revenues of 4 billion dollars raised primarily from corpora-

tions and individuals with high incomes, so far as their effect in reducing consumption is concerned. For this reason there are any number of tax gaps corresponding to each desired reduction of demand.

The relation between the many concepts of the gap can best be shown by setting up a system in which all the relevant factors are included explicitly, but I shall not here introduce a set of equations for that purpose. It is sufficient to emphasize that there are many variations of the inflationary gap and that a mere statement that some expert estimates the inflationary gap at so-and-so many billion dollars means nothing unless he specifies what concept he is using. Even that would be hard to specify until there is some standard terminology for the different variations. It will usually be necessary to examine the statistical procedure to find out for oneself. Without such an examination both agreements and serious disagreements as to the prospects for inflation may be concealed. Two experts may come out with the same figure yet one may be estimating the primary gap and the other the total gap. The former estimate may actually imply a pressure of demand two or three times the magnitude of the latter, but without examination the two will appear to agree. Let me say that this is not merely a theoretical possibility.

Analyses of the gap type appear to assume that there is a unique supply curve for output as a whole, at least with any given composition of total demand. This follows from the implication that, with given physical productive capacities, rising prices can be prevented only by restricting demand. The problem is usually stated in terms of what amount of demand is consistent with maintenance of base date prices. The answer is usually found by comparing demand with the physical potential valued at those prices. When the problem is stated and answered in this way, there is an implication that the supply curve is not only unique but is infinitely elastic at the base date prices up to the point where this potential output is produced.

To avoid such an extreme implication, a more careful statement is required. The question might be asked in this way: What increase of demand is compatible with an increase of prices not exceeding a certain desired percentage? The answer would then be found by solving for the increase which made demand equal the supply that could be produced at this maximum desired price level. If output is not infinitely elastic up to full capacity, this supply which determines the maximum permissible demand is lower than that which the economy is physically capable of producing. In other words, before the gap can be measured it is necessary to decide what expansion of output is attainable with what price increase and it is further necessary to decide what com-

promise is to be made between rising prices on the one hand and sacrifice of production on the other.

It may be argued that no sacrifice either of price stability or of output is necessary, that demand should be permitted to rise to the maximum possible output, measured in base date prices, and that those prices can be maintained by direct price controls. If price controls are necessary before maximum output is attained, the supply curve must have a finite elasticity, and if it is a unique supply curve the maintenance of base date prices by direct controls would inhibit output. It follows, therefore, that those who believe both that direct price controls are necessary and that they will not prevent the attainment of maximum output do not believe that there is a unique supply curve.

Let us turn now to the policy implications of gap analysis. It is usually applied in connection with tax policy in order to determine the desirable amount of additional taxation. Even if one accepts the assumption that price stability should be sought by restraining the growth of demand, one may measure the inflationary gap without getting any guidance whatever as to how far demand ought to be restrained by taxation. It must be remembered that increased taxation is only one of several methods of affecting demand. Its effects are distributed fairly generally over the objects of expenditures and it can be focused on particular types of goods only to a limited extent. The gap, on the other hand, does not necessarily imply a general excess of demand. The fact that it is usually derived and expressed in terms of global income and expenditure figures makes it easy to forget this fact. The gap is a summary expression reflecting a total of many separate excesses of demand over supply at the desired prices for many different commodities.

For the determination of policy it makes all the difference in the world how these separate excesses are distributed. If demand is generally excessive in terms of potential output at the desired prices for all types of goods, durable and nondurable, producers' and consumers', general measures of the income tax variety are appropriate. If the total gap is composed only of excessive demand in the durable goods field, however, and not at all in the field of nondurable consumers' goods, measures that affect primarily the demand for the latter are not particularly helpful.

The basic economic fact here is that resources are not perfectly fluid. If the output and the productive resources that satisfy consumers' demand for nondurable goods cannot be used to satisfy the excessive demand, as is the case with regard to the matériel component of defense expenditures, then no purpose is served by restricting demand for the

goods that are not scarce. Where this is the case it is far more appropriate to use measures that restrict demand for particular services, for example, allocation and rationing.

If the expert tells the policy maker only the amount of the total gap, he is not giving sufficient assistance in the formulation of policy. The very least that the policy maker ought to require of the expert is an estimate of the composition of the gap as between broad classes of output. For this purpose output should be classified according to the resources required in production. Theoretically, goods that require the same sort of resources should be in one class; other goods that cannot be produced with those resources should be in different classes. In practice some part of the resources required to make one product will almost invariably be of some use in producing some other, so no detailed classification can be perfect in practice. But a grouping into durable and nondurable goods is extremely useful. The gaps in each group should be estimated separately. Then the policy maker has some guidance as to what sectors of the economy his policies should be designed to hit. The measurement of the excess of total demand over the level desired is only a first step or a summary expression. If no breakdown of total demands and supplies is provided, the gap is merely a summary measure of the aggregate inflationary pressure. If the existence of a *total* gap is carelessly assumed to imply the existence of a *general* gap, the concept may be more dangerous than helpful.

Office of Price Administration
Washington, D.C.

II. Discussion of the Inflationary Gap[4]

By Milton Friedman

Driving along the beautiful Skyline Drive in Virginia recently, we passed Lands Run Gap, and then Compton Gap. A bit later another sign came into view. I expected it to read Inflationary Gap, but it was only Jenkins Gap. Again and again I was disappointed. Inflationary Gap never appeared. And this was entirely appropriate: Inflationary Gap is never of the past or the present; it is always in the future.

The inflationary gap is one of those *ex ante* concepts with which recent theory has made us all familiar. Double entry books always

[4] At the request of the editor, Mr. Friedman has contributed this discussion of the subject matter of Mr. Salant's paper.

balance, aside from numerical errors. Expenditures by consumers must always equal receipts of sellers. But expected expenditures by consumers during some future period need not equal the value at some specified price level of commodities and services that will be available for sale. It is this difference between expected expenditures and the value of goods expected to be available that constitutes the inflationary gap—at least, in one of its variants.

When the future has become the past, the books will still balance; expenditures will equal receipts; and the inflationary gap for that period will be no more. How does the gap between expected expenditures and expected value of goods available work itself out? How does it lead to the particular level of expenditures and receipts that is realized? Speaking loosely, how is the gap closed?

The adjective "inflationary" implies one method whereby the gap may be closed; namely, through a price rise. But this implication is in many ways misleading. The mere revaluation of the goods available for sale does not by itself close the gap; it is the redistribution of income and the change in spending-saving habits accompanying a price rise that closes the gap. And a price rise is not the only way in which the gap may be closed.

Suppose that, at some specified price level, the value of resources (including, of course, enterprise) expected to be employed in the forthcoming period is \$100; that half of these are expected to be utilized, directly or indirectly, by government in producing goods that will not be available for sale, and the other half by industries producing consumer goods; that no consumer goods are available for purchase except from current production; that there are no taxes; and that all payments for resources constitute individual income (*i.e.*, in the terminology of national income, that there are no "business savings"). Under these assumptions, the aggregate income of individuals would be \$100, and the aggegate value of goods available for purchase (at the assumed price level) would be \$50. Suppose, further, that at the assumed price level and with an income of \$100, individuals would *want* to spend \$70 on consumer goods. The inflationary gap—or that variant of it designated by Mr. Salant as the primary consumer expenditure gap—would be \$20.

With \$70 trying to buy goods, and \$50 worth of goods available, at the assumed price level, it may seem that a 40 per cent price rise would close the gap by making the aggregate value of the goods equal to \$70. But if this were to happen, aggregate income would no longer be \$100. If, for the moment, we assume other things unchanged, government would be spending \$50, consumers would be spending \$70, and

aggregate income would be \$120. The increase in the price of consumer goods means an increase in payments to some resources and, hence, in their price. If government, to compete, should have to raise the price paid to comparable resources, total income would rise even more—at this stage, to \$140. But with a higher price level and a higher income, consumers will want to spend more than \$70. Indeed, if the aggregate spending-saving pattern were unchanged, they would want to spend 70 per cent of their unchanged real income, or \$98. At the new, higher price level, then, there is a gap of \$28, replacing the initial gap of \$20. In short, if consumers were to insist on spending 70 per cent of income, and government were to insist on employing half the resources, the immovable object would be meeting the irresistible force.

The answer to this dilemma is, of course, that a price change does not involve merely a revaluation of goods and of incomes. Because of frictions and lags, price changes lead to a redistribution of incomes and to a change in spending-saving relationships. The initial increase in income from a price rise is likely to be concentrated in the hands of recipients of profits, a group that tends to receive fluctuating incomes and accordingly to save a disproportionately large part of any increase in income. Moreover, the receipt and spending of incomes are not simultaneous. All along the line, it takes time for recipients of higher incomes to readjust their spending patterns. Finally, competitive readjustments of resource prices take time. While employing, in some sense, half the real resources, government may not disburse half the money income. Under conditions like the present, of course, this last adjustment is likely to be concealed. The initiating impulse is arising from the government, not the private, sector. Government, in bidding away resources from the private sector, is raising the prices of resources. The share of money income it is disbursing may well be larger than the share of resources it is employing.[5] The point is that the secondary changes in the private sector make this difference less than it would otherwise be.

A price rise will close the gap, therefore, by changing the ratio of saving to spending and by changing the ratio of the value of goods available for sale to the total value of goods produced. At the end of the period, the balanced books will show a percentage of income saved exactly equal to the percentage of income disbursed in the production of goods not available for sale. In our simplified example, if we assume that government throughout disburses half the income, the balanced books will show that individuals have saved half their income.

[5] These are inexact statements, touching on the extremely troublesome problem of defining the volume of real resources in other than monetary terms.

How large a price rise will be required depends on the speed with which readjustments take place. If, for example, labor is quick in demanding and successful in obtaining higher wages when profits rise, and consumers are quick in interpreting rising prices as a forerunner of further price rises and hence in increasing their expenditures, a very large price rise may be required, and conversely. The same primary gap may, therefore, be associated with a wide range of price changes.

Even in the absence of direct government intervention, a price rise and the attendant redistribution of income is not the only way in which the gap might be closed. For example, to take a highly unreal extreme, sellers of consumers' goods might simply refuse to raise prices despite the high level of demand, permitting, instead, their shelves to empty and bare-shelves rationing to replace price rationing. Consumers would then be forced to save $20 more than they wanted to. This type of behavior by sellers would, in practice, be rare; but to whatever extent it occurred it would help to close the gap.

Again, aside from the increase in savings as a result of the redistribution of income, savings might increase because of a "buyers' strike" —unable to obtain the desired goods at accustomed prices, buyers might simply refuse to purchase at higher prices. This type of behavior is contrary to experience, which reveals a higher percentage of income spent on consumption goods, the lower the real income. But it is not entirely inconceivable under wartime conditions and psychology.

Finally, the gap might be closed by changes arbitrarily ruled out in our simplified example. As Mr. Salant quite properly points out, aggregate output—at least "economic" output—is not unique. A price rise might mean a larger output than the $100 assumed in our example, and hence more goods available for sale. And goods can be made available for sale not only from current production but also from capital. Such an increase in goods sold does not increase *incomes;* it merely substitutes one form of asset for another—money for goods.

Under these conditions, it may well be asked what significance can be attached to the number describing the primary expenditure gap— in our example, $20. The primary expenditure gap—the concept most frequently used in measurements of *the* gap—is significant in only two ways: (1) It measures the amount by which the estimate of voluntary savings at the assumed income level would have to be in error in order that the gap should be the product of statistical error rather than of economic reality. If the statistician had underestimated voluntary saving by $20, there would in reality be no gap. (2) It measures the task of one of the many public policies that might be used to close the gap; namely, a campaign to stimulate "voluntary" savings. In terms of our

example, such a policy, in order to succeed, would have to induce consumers with an income of $100 to save $20 more than they would want to save in the absence of such a campaign.

The $20 that measures the primary expenditure gap does not, as is often mistakenly supposed, measure the amount that would have to be raised in taxes to close the gap. If, in our example, $20 were withdrawn in taxes, consumers would have available $80 for saving and spending—at the assumed price level. Out of $80 of income, they would presumably want to spend less than $70 but more than $50, since a reduction in income ordinarily reduces both saving and spending. In order to eliminate the gap, enough would have to be withdrawn in taxes to reduce disposable income to a level at which consumers would want to spend $50. This would clearly require more than $20, how much more depending not only on saving-spending habits but also, as Mr. Salant has pointed out, on the kinds of taxes imposed.

An analysis directed toward policy should not, therefore, stop with an estimate of the primary expenditure gap. It should take as its function the evaluation of the quantitative aspects of the alternative measures that might be taken to close the gap. Such an evaluation is essential to an intelligent choice among measures or an intelligent combination of measures. It is not enough to list the various measures that might be taken: direct stimulation of savings; reduction of consumer income through taxation or compulsory savings; indirect stimulation of savings by rationing some goods and thereby narrowing the range of goods freely available for purchase, or by imposing restrictions on consumer credit; rationing of over-all purchasing power; reduction of expenditures by industry on non-war capital formation, and by state, local, and federal governments on non-war activities; prevention of wage rises; elimination of overtime payments; etc. There is needed, in addition, quantitative estimates of the contribution that would be made by each possible variant of each measure, and by combinations of different measures. The ideal would be a series of indifference surfaces, so to speak; *i.e.*, a list of the alternative combinations of policies that would serve to close gaps, however defined, of alternative sizes.

The analyses that have so far been made fall far short of this ideal. In the main they have been directed at measuring either the primary expenditure gap—the measure appropriate for a policy of direct stimulation of savings; or the tax gap—the measure appropriate for a policy of reducing consumers' disposable incomes through taxation. True, these studies have attempted to take into account the effect of other policies, in so far as these policies could be foreseen. But only to a minor extent have they attempted to state the consequences of extensions of the other policies—to say, for example, that this and this ex-

tension of rationing would change the amount of taxes needed by this and this amount.

Mr. Salant stresses the importance of a somewhat different elaboration of the estimates—a breakdown of the gap among broad classes of output. He considers such a breakdown vital for policy purposes because, in his view, "general measures of the income tax variety are appropriate" primarily "if demand is generally excessive in terms of potential output at the desired prices." This apparently innocent statement conceals a joker—"at the desired prices." The composition of the gap is determinate only at specified relative prices for different classes of goods.[6] It can be anything at all if relative prices are permitted to vary. Mr. Salant's policy conclusion is valid only if (1) stabilization of particular prices as well as of the general level of prices is desired, or (2) relative prices are generally and necessarily rigid. Neither point seems to me to be acceptable. General measures of the income tax variety seem appropriate under almost any circumstances—certainly any that are at all probable in the United States. The price system seems the least undesirable method of allocating the limited resources that will be available for the production of civilian goods. If they could be constructed, breakdowns of the type suggested by Mr. Salant would be desirable under alternative relative prices, not for determining basic policy, but rather for estimating the relative price changes that would be likely to occur.

The present state of gap analysis is unsatisfactory not only because it does not go far enough, but also because the estimates that are made are subject to such wide margins of error. At the present stage of our knowledge of the functioning of the economic system, estimating the gap is a presumptuous undertaking. One of the main by-products of attempting to do so is a keener realization of how little we know about the quantitative interrelationships of the economic system, and how much there is to know. To estimate the gap, and the consequences that will flow from it, requires precise and quantitative knowledge of the process of economic change—of how impulses are transmitted throughout the economic system, of lags in adjustment, technical possibilities, and human reactions.

Useful estimates are possible at all only because of the special circumstances of the moment. The necessities of war require an ever-increasing stream of expenditures whose desirability is unquestioned. These expenditures constitute the dominant factor making for expan-

[6] It should be noted that the aggregate amount consumers will want to spend out of a given income may also be affected by the relative prices of different classes of goods even if the general level of prices is, in some sense, fixed. But this effect would presumably be of secondary importance.

sion of money incomes. The direction of the change in expenditures is known: so long as war continues, expenditures will increase and not diminish. The magnitude of the change can be forecast with reasonable accuracy for short periods. Many factors that would be important to the estimator in ordinary times have no independent influence in wartime. For example, non-war capital formation is subject to direct control and is determined by availability of materials rather than profit possibilities. The factors that determine capital formation in peacetime can be almost entirely neglected and attention concentrated on productive potentialities. Finally, possible discrepancies between the amount consumers want to spend and the value, at specified prices, of the goods available for purchase are so large that even substantial errors of estimate will not alter major policy implications.

The development of methods for estimating the gap and the apparent usefulness of the resulting estimates for public policy during wartime have led many to suppose that a new technique has been developed for guiding public policy in peacetime. As the preceding paragraph indicates, this is an illusion. Gap analysis has added nothing to our understanding of economic change. We know no more now about how the business cycle runs its course than we did before. The special circumstances of a war period make it possible to use this imperfect knowledge to construct quantitative estimates that are useful for policy purposes. When these special circumstances have passed, the problems that plagued us before will plague us again.

Washington, D.C.

THE MEASUREMENT OF STATISTICAL COST FUNCTIONS: AN APPRAISAL OF SOME RECENT CONTRIBUTIONS[1]

By HANS STAEHLE

"When you cannot measure, your knowledge is of a meager and unsatisfactory kind." This famous statement of Lord Kelvin's may be paraphrased to the effect that, whenever attempts at measurement of previously unmeasured quantities and relationships are made, understanding and knowledge, if only of the complexities of the subject, are certain to be furthered. I shall pass in review, and appraise, a recent newcomer in the long series of efforts at quantification in economics, the literature on statistical cost functions.

The subject invites comparison with a closely associated development, the measurement of demand functions. From Gregory King to Marschak's most recent contribution, the process has been one of ever closer interpenetration of facts and theory. It is typical, for instance, that even to Marshall, aware though he was of the influence of factors other than price, elasticity of demand exclusively meant elasticity with respect to price, all other factors expressing their influence through either shifts or distortions in that price-quantity function. Marshall never used the concept of income-elasticity of demand. It was for H. L. Moore, the econometrician, to develop the idea of generalized partial elasticity coefficients of demand. As to the particular dependence of demand upon income and its elasticity, a relatively recent, and essentially measurement-inspired addition to the economist's toolbox, its possibilities for the further development of theoretical reasoning have already been exploited by Bowley and Allen, and have certainly contributed to shape Hicks's ideas. In other words, Marshall, the theorist, could afford to be content with stating *the* "law of demand" *ceteris paribus*. But attempts at measurement very soon made it necessary to find out what exactly the more important ones among the "other things" really were. For measurement of the price-quantity function is possible only if the influence of the *cetera* is successfully eliminated, and in order to eliminate we must know *what* and *how much*. The devices invented for the purpose of isolating what to Marshall was *the* law of demand have in turn proved stimulating to reasoning of a purely theoretical kind.

Later I shall examine whether a similar development can be expected

[1] A paper presented at a joint meeting of the American Economic Association and the Econometric Society, held in New York, December 29, 1941.

in consequence of past and present endeavors in the field of cost measurements.

Similar in this respect to the theory of consumers' choices, the theory of short-run producers' behavior proceeds on the basis of a simple postulate of rationality. As Cournot put it in 1838, "the producer [he was speaking of a monopolist] will always stop [expanding his output] when the increase in expense exceeds the increase in receipts"; or, as we would say today, when marginal cost (increasing or constant) equals marginal revenue (constant or decreasing). Cournot then goes on to say that he will scarcely have occasion to consider directly the total-cost function, but only its derivative, *i.e.*, marginal costs, the shape of which exercises the largest influence upon the solution of the principal problems of the science of economics.[2]

It is not idle to quote these remarks, not only because it never *can* be idle to read and quote Cournot; they also directly apply to all the statistical work which has been done in our field. Although each one of the authors finds it necessary to start out by measuring the total-cost function, all their work aims in the end at determining short-run marginal costs as a function of output. All these studies, in other words, by endeavoring to find a numerical expression for the function connecting marginal costs with output, are in fact, if not in intention, attempting to throw light upon the rationality of entrepreneurs' behavior. It would indeed be difficult to see why, if not for that reason, the measurements are undertaken.

In reviewing the literature on the subject I cannot hope to be complete. I shall therefore first list what appear to be the main contributions, and then briefly consider what methods were used to construct the relationship between output and costs; what concrete results have been reached, and what significance these results possess in relation to (1) the goal of the measurement itself, (2) business practice, and (3) cost theory. In a final section I shall try to speculate as to future possibilities.

I

Every field has its pioneers. With due reservation regarding the probability that Professor Viner will soon discover, if he has not already done so, a still earlier contribution, I wish to discuss as the first item in my list a brief article by an Austrian writer, Wilhelm von Nördling, on "Le Prix de Revient des Transports par Chemin de Fer" (Cost of Production of Transportation by Railroad").[3] That article

[2] A. Cournot, *Principes Mathématiques de la Théorie des Richesses* (Paris, 1838), p. 65; Bacon's translation, p. 59.

[3] Published in the *Annales des Ponts et Chaussées* for 1886 (1[er] sémestre), pp. 292-303.

must not be considered as a *curiosum* only. Its scientific value, even for the present day, will become apparent in the summary that I shall give of it later. May I merely mention that I found it quoted in an important lecture delivered by Emile Cheysson, the well-known French social reformer and pupil of Le Play, under the title of *La Statistique Géométrique, Méthode pour la Solution des Problèmes Commerciaux et Industriels* ("Geometrical Statistics, A Method for the Solution of Commercial and Industrial Problems")[4] in which Cheysson not only evolves a scientific program which sounds very much like Frisch's introductory address at the first meeting of the Econometric Society at Lausanne in 1931,[5] but also attempts to determine the Cournot point in a concrete statistical case. It is of interest to note that, in the article devoted to Cheysson in the *Encyclopaedia of the Social Sciences*[6] it is said that he "contributed nothing new to sociology or economics."

My second item is a contribution by Ehrke and Schneider published in 1933, in the former's book on *Overproduction in the Cement Industry*.[7]

I shall further consider the studies by Yntema,[8] and Ezekiel and Wylie,[9] on the United States Steel Corporation, both published in 1940, and, of course, Dean's various studies, the first of which appeared in 1936.[10]

I shall have no time to consider the various studies dealing with farm management problems,[11] nor the so-called break-even charts de-

In the *Annales*, the author's name is, with typically French neglect for "umlaut," given as "W. Nordling, ancien directeur général des chemins de fer au Ministère du Commerce à Vienne." There is no doubt, however, that W. Nordling is identical with Wilhelm von Nördling, k.k. Sectionschef und General-Director des österr. Eisenbahnwesens a.D., who in 1885 published a book *Die Selbstkosten des Eisenbahn-Transportes und die Wasserstrassen-Frage in Frankreich, Preussen und Oesterreich*, Vienna. This book, though full of statistical data, contains no study of cost functions.

[4] Paris, Publications du Journal Le Génie Civil, 1887.

[5] *Econometrica*, vol. 1, no. 1, pp. 74-76.

[6] Vol. 3, p. 371.

[7] Kurt Ehrke, *Die Uebererzeugung in der Zementindustrie von 1858-1913* (Jena, 1933), especially pp. 276-310.

[8] United States Steel Corporation, *T.N.E.C. Papers*, vol. I, pp. 223-302, also printed in Hearings before the Temporary National Economic Committee, Pt. 26, *Iron and Steel Industry*, pp. 14032-82.

[9] Kathryn H. Wylie and Mordecai Ezekiel, "The Cost Curve for Steel Production," *Jour. of Pol. Econ.*, vol. XLVIII, Dec., 1940, pp. 777-821. See also by the same authors "Cost Functions for the Steel Industry," *Jour. Am. Stat. Assoc.*, vol. 36, March, 1941, pp. 91-99.

[10] Joel Dean, *Statistical Determination of Costs, With Special Reference to Marginal Costs* (Chicago, 1936); and *Statistical Cost Functions of a Hosiery Mill* (Chicago, 1941); and *The Relation of Cost to Output for a Leather Belt Shop* (New York, Nat. Bur. Econ. Research, 1941). See also *Am. Econ. Rev.* Suppl. vol. XXX, March, 1940, pp. 400-03.

[11] See, *e.g.*, the studies quoted by E. H. Phelps Brown, *Econometrica*, vol. 4, pp. 123-37.

veloped by, *e.g.*, Bolza[12] and Rautenstrauch,[13] nor finally the important work of Schmalenbach[14] and his school.[15] I also shall have to omit consideration of one attempt to measure a long-run cost curve (or envelope function) which Dean has produced but not yet published.

II

Granting these limitations of the subject, the great similarity in the problems encountered by the various authors, and in the methods they chose to solve them, suggests something of a necessity inherent in their task.

It is the aim of each one of these writers to isolate, from among the many factors that influence costs, the *net* influence of changes in the rate of output. In order to do this, each one attacks the problem by studying total costs, though they all are also, if not mainly, interested in marginal costs. Each one (with the exception of Ezekiel-Wylie and Ehrke-Schneider) runs up against the problem of measuring the volume of a diversified output. Each one has to face the problem of "technological change," and of possible change in the size of equipment, as one of the major factors to be eliminated. Finally, each one is compelled to consider the separation of costs which are not in the most immediate sense direct ones into those which depend on the lapse of time, and those which depend on utilization.

Von Nördling definitely sets out to obtain the relationship between costs and output when equipment is given. He carefully points out that what matters is not average cost, but only "the increment in expenditure necessary to transport one ton-kilometre *more* or, which amounts to the same thing, the saving that would be consequent upon the transportation of one ton-kilometre *less*." "Interest on invested capital," he goes on to say, "will not be part of costs thus understood, for interest is a permanent, invariable charge, independent of tonnage." He is aware of the problem involved in measuring output, consisting as it does of both passenger and merchandise traffic, and he adopts, after detailed justification, the convention of giving equal weight to a ton-kilometre of merchandise and a passenger-kilometre. Among the reasons for the adoption of this weighting system are considerations of the relative variable costs per unit. He then chooses from among the various railway systems existing in Austria at that time those for

[12] Hans Bolza, "Kostenstudien mit Erfahrungszahlen aus der Praxis," *Nordisk Tidsskrift for Teknisk Økonomi*, June, 1937, pp. 97-109.

[13] Walter Rautenstrauch, *The Economics of Business Enterprise* (New York, 1939), pp. 303-09.

[14] E. Schmalenbach, *Selbstkostenrechnung und Preispolitik* (Leipzig, 1934).

[15] Reinhard Hildebrandt, Herbert Peiser, and others.

which in at least two, not necessarily consecutive, years the length of line operated remained as nearly constant as possible while at the same time large variations in the volume of transportation occurred;[16] and from the cost information available for the years thus chosen he then determines the total number of ton-kilometres supplied during the year (x) and the total variable costs (*i.e.*, other than interest on bonds) (y) per kilometre operated. He shows himself surprised and delighted—and both these emotions are fully justified—to find that these points, though relating to various different enterprises, when plotted in a single graph, very closely approximated a continuous function, showing when extrapolated a small intercept with the cost axis, and a constantly decreasing slope. He correctly identifies the slope of the radius vector as average cost per unit (y/x), and the slope of the tangent to his function as marginal cost (dy/dx). And then he does something very surprising: he writes the ratio of marginal and average cost thus: $\frac{x}{y}\frac{dy}{dx}$

Though unwittingly, von Nördling thus seems to be the first man to have printed the celebrated elasticity formula. For although Marshall found it on a Palermo hotel roof in 1881,[17] he did not publish it until 1890, in the first edition of the *Principles*. As to von Nördling, he merely uses it to study the fluctuation of the ratio of marginal to average costs over the observed range of output (where he finds it to be consistently less than unity) and to predict that it would increase to unity if observations for larger output rates were available.

This brief summary of von Nördling's article is far from exhausting all that is of interest in it. But it is sufficient to show that his results are far from negligible, that he saw and successfully solved each one of the major problems above listed, and that in at least one important respect he went beyond what has since been done in this field: he attempted a comparison of cost conditions in firms belonging to the same industry, a suggestion which seems full of promise, as I shall mention in my concluding section.[18]

It is now necessary to pass to a brief consideration of later con-

[16] Compare this to Dean's *Leather Belt Shop* study, p. 11: "The period . . . was chosen because it fulfilled the following conditions most satisfactorily: (1) The rate of output and other measurable cost determinants varied sufficiently to yield observations over a wide range. . . . (3) The plant and equipment remained unchanged during the analysis period, permitting the observation of short-run adjustments uninfluenced by long-run changes. . . ."

[17] A. C. Pigou, ed., *Memorials of Alfred Marshall* (London, 1925), p. 45.

[18] The only other attempt in this direction, though seriously imperfect in other respects, is a hitherto unpublished paper by Ernest M. Doblin who investigated costs in different steel companies.

tributions. A detailed description, however, seems unnecessary, since the relevant publications are easily available and I therefore assume that they are known.

The common basic material seems to consist of data taken from the accounting records either as published, or directly. In some cases, adjustments were made to redistribute depreciation charges in what seemed to be a more rational way. Efforts were also made to ensure that costs and output data related to the same unit period. Finally, wherever possible and necessary, the cost data were corrected for changes in factor prices, a practice on which I shall make some comments later. All this, however, though obviously of great consequence for the results, is neither very startling nor very interesting. I have nothing worthy of mention to offer in these respects and had better refer for a thorough treatment of some of them to a recent article by C. Reinold Noyes.[19] The two real *problems* in all this seem to be the measurement of output when production is diversified, and the elimination of technological change, and/or of changing size of the firm when that sort of thing occurs.

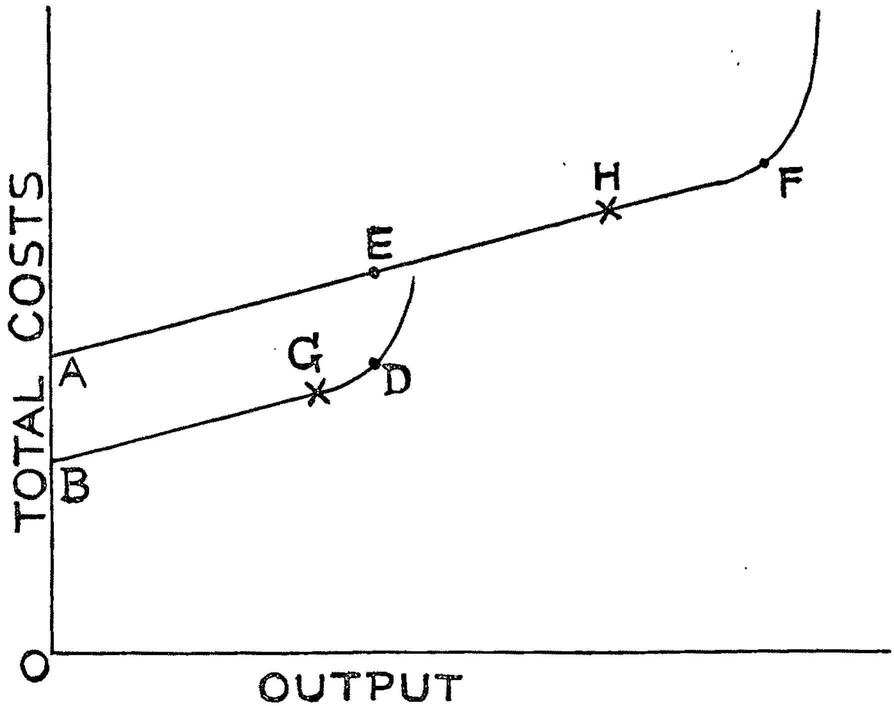
First, as regards measuring output (a problem absent in Ehrke-Schneider's case, but present everywhere else), the tendency often is toward solving it by weighting the quantity ratios relating to the various commodities by the relative direct, or variable, costs to which they respectively give rise. This practice seems highly objectionable, though it is difficult to see what other solution could be suggested. It indeed amounts to determining output by costs, *i.e.*, to introducing a spurious dependence where measurement of an independent relationship is really wanted. Nor could that problem easily be solved, as far as I can see, by any sort of correlation set-up.

Secondly, concerning technological change, the difficulties are truly insurmountable. There comes into being, of course, a new cost, if not a new production function, whenever such change occurs, and no amount of assuming, or fitting of trends to residuals will really do. Yntema has attempted the latter, and, without now going into a detailed criticism of his procedure, I merely wish to announce the appearance in a forthcoming number of the *Review of Economic Statistics* of a very thorough appraisal of both this and other aspects of Yntema's study by Caleb Smith.

Similarly embarrassing is the problem of changes in the size of the firm. Yntema, as well as Ezekiel-Wylie, did not do much, if anything,

[19] "Certain Problems in the Empirical Study of Costs," *Am. Econ. Rev.*, vol. XXXI, Sept., 1941, pp. 473-92. The same study also appeared as a "Memorandum on Costs in Relation to Output" as an appendix to Joel Dean's study of a leather belt shop, above quoted.

about it. And yet it is important. For, even though technique may remain constant, Schneider's "law of harmony"[20] will apply. That law states that full harmony in the structure of the enterprise only exists if an increase in fixed costs produces no more than a proportional increase in the rate of output possible without running into increasing average costs. Or, in other words, minimum average costs may still be lowered, given marginal costs, as long as full harmony is not realized. Graphically, if in the adjoining diagram AB/BO < EF/BD, where



BD = AE, harmony has not been reached. Yntema, to the extent that he failed to take account of variations in the size of U. S. Steel during his period of observation, thus obviously runs the risk of overstating his marginal costs. Whether U. S. Steel during the relevant years was increasing or decreasing, Yntema's results may well be of the nature of points G and H in the graph.

As to Ezekiel-Wylie, they mostly have used percentage of capacity as the independent variable. But though satisfactory in that it *seems* to settle everything, this device is very doubtful, in the light of Ter-

[20] See Ehrke, *loc. cit.*, where Schneider (p. 290, footnote) attributes the first formulation of this law to Ivar Jantzen. A German translation of the most relevant parts of Jantzen's original article is available in Erich Schneider, *Theorie der Produktion* (Vienna, 1934), pp. 83-92.

borgh's excellent remarks[21] on the measurement of capacity even in ordinary plants. His reasons apply *a fortiori* to U. S. Steel. Moreover, the device does not do away with the point mentioned in the previous paragraph.

Most other authors solve this problem by carefully avoiding it, *i.e.*, by choosing their firms and periods such that both technological change and variations in size are absent, which indeed also is a solution, though not a very satisfying one.

I may conclude this very sketchy review by mentioning the very high quality of the statistical work done by Dean. This, however, by no means exempts his results from the criticism which I shall later direct against the significance of all these studies.

Now as regards the results, I already mentioned von Nördling's. Yntema, Dean, and Ehrke-Schneider end up with linear total-cost functions, Ezekiel-Wylie with a function which exhibits a decreasing rate of increase. The latter result, I would not take too seriously. As Mosak[22] and others[23] have pointed out, plausibility is not one of its outstanding features.

It is, finally, worth mentioning that Ehrke-Schneider are the only ones to have secured observations on those extreme reaches of the total cost curve where average costs decidedly increase. But it took the *maximum maximorum* in relative cyclical position to make that possible. Their cement factory worked beyond optimum capacity during two months out of a period of about fifty years, at the top not only of the Juglar, but also of the Kondratieff, in 1873.

III

There is no reason, on grounds of theory, to be particularly upset by the conclusion which several of our authors have reached, namely, that marginal costs, instead of being U-shaped, seem to be constant over the whole of the observed range which, however, admittedly stops short of the probable point of optimum utilization of plant. All that this means is that an economic system in which such a condition holds rather generally, will be less stable than another in which U-shaped marginal costs predominate. And not one of the more competent theorists would need more than a moment's notice to invent and build into a "model" the compensating stabilizers required to approximate that model ever more intimately to "reality" which (as it well known) does not show uninterrupted series of explosions but some sort of

[21] George Terborgh, "The Problem of Manufacturing Capacity," *Federal Reserve Bulletin*, July, 1940, pp. 639-46.

[22] J. L. Mosak, "Some Theoretical Implications of the Statistical Analysis of Demand and Cost Functions for Steel," *Jour. Am. Stat. Assoc.*, vol. 36, pp. 100-109, especially p. 104.

[23] *E.g.*, G. J. Stigler, *Am. Econ. Rev.*, Suppl., vol. XXX, March, 1940, p. 402.

stability. From under *that* old top-hat we may, to use Hick's own image, confidently expect to be blessed with many more generations of lively rabbits. Economic theory, in short, cannot, quite apart from the Mises position, so easily be uprooted by any facts. In the particular case of constant marginal costs we are, thanks to Stigler,[24] in a position to look with equanimity upon any case of total-cost linearity that future measurements may grind out.

This, however, does not exempt us entirely from a consideration of the validity of the results so far presented. In fact, there is considerable room for doubting precisely their linearity aspect. An impressive array of arguments may be marshalled in this connection. I shall mention only a few points.

1. As Ruggles[25] has shown, very slight deviations from linearity in the total-cost function would be sufficient to impinge curvature upon the marginal cost curve.

2. Such deviations from linearity may easily occur for a number of reasons. For instance, the practice of straight-line depreciation fails to allow for the dependence of physical wear and tear upon output, thus understating costs at high, and overstating them at low, output levels. And negligible though that may appear, it might be just enough to confer upon the total-cost function that small amount of inverted S-shapedness which would suffice to bend marginal costs into their conventional U-shapes.

Furthermore, as Smith brings out in his forthcoming paper already quoted, in the event of a fairly long, say one-year, unit period, if the output is not spread evenly over each unit period, the use of the average rate of output during the period assumes a linear cost function and by this assumption biases the statistically determined cost function toward linearity, since the midpoint of a secant connecting any two points on a curve whose second derivative does not change sign lies closer to a straight line connecting the endpoints of the curve than does the corresponding point of the curve itself.

As Smith also shows, if costs are adjusted for changes in factor prices to any given period, this runs counter to the fundamental assumption of rationality in entrepreneurs' behavior and indeed destroys what evidence there may be of it in this important respect. If, in other words, the combination of factors used in the given period (to the prices of which the adjustment is made) was the most efficient one possible at the prices of that period, then costs in all other periods, when relative factor prices were different, would be overstated. This

[24] G. J. Stigler, "Production and Distribution in the Short Run," *Jour. of Pol. Econ.*, vol. XLVII, June, 1939, pp. 305-27.

[25] R. Ruggles, "The Concept of Linear Cost-Output Regressions," *Am. Econ. Rev.*, vol. XXXI, June, 1941, pp. 332-35.

point of Smith's is, I believe, quite realistic in that, in addition to Stigler's type of flexibility built into a plant which would flatten out the average cost curve, possibly at the price of a higher minimum level, there may be present another sort of flexibility by which an identical output may be obtainable with different factor combinations, choice between which would be guided by the relative factor prices. This would, after revaluation of the real cost elements at constant factor prices, lead to a maximum and a minimum level of costs for each level of output, thus making for a zone, rather than a single-valued cost function, in the statistical results. The width of that zone would depend upon (1) the "flexibility" of this special sort of which the plant was capable, and (2) the amount of variation in relative factor prices that occurred during the period of observations.

3. If the total-cost function, even after allowance for the above and any other conceivable points, should still insist upon being linear, it would not yet follow that marginal costs must be constant. For, as Barone[26] remarks in connection with Pareto's law of income distributions, "it is not safe to draw, by means of analytical transformations, other laws from an empirical law obtained by interpolations because one may in so doing end up with results completely divergent from reality." To his unsophisticated mind that still seemed to matter. This point of Barone's has been elucidated by Haavelmo in a recent paper.[27]

Arguments of the above type are plentiful and to be found in almost any treatment of our subject. To the extent that they apply to any special case they, of course, damage not only the linearity of the function derived but also the function itself. More particularly with respect to theory, this whole situation is very interesting. On the one hand, many reasons may be given why the statistical results, however carefully elaborated, may be spurious. On the other hand, however, there is also the tendency on the part of theorists, exemplified by Stigler, to build up a defense against possible future confirmation and consolidation of what, though itself still but shakily established, seems to contradict an assumption conventionally made in non-statistical reasoning. It is an interesting example of the inner workings of scientific progress.

IV

The discussion so far has been in terms of the reliability of the statistical results in relation to the functions which they claim to

[26] Enrico Barone, "Principi di Economia Finanziaria," now available as vol. III of *Le Opere Economiche* (Bologna, 1937), p. 55.

[27] Trygve Haavelmo, *On the Theory and Measurement of Economic Relations* (Cambridge, 1941, multigraphed), especially pp. 19 *ff*.

represent, and also in relation to the conventional representation of such functions in non-statistical reasoning. The following remarks will bear upon the significance of these results in a somewhat wider sense.

The final aim of both cost theory and measurement is, of course, and could not be anything else but a better understanding of entrepreneurs' behavior. There is no room for doubting that every entrepreneur perfectly realizes that, as long as he can increase his receipts more than he increases his costs by expanding his rate of output, it will be in his interest to do so under any given set of conditions which is likely to remain unchanged for some time to come. There is, however, considerable room for suspecting in the first place that, even abstracting from expected changes, entrepreneurs do not use marginal costs as *we* measure them in the application of that rationality principle. If that were so, it would not take long and painstaking research to discover marginal costs.

In the second place, even if actual objective marginal costs were known to entrepreneurs (as they quite probably are not), it might not be good policy to work at a rate of output which would maximize profits in the classical short-run fashion. For, although it is quite true that "in the long run we are all dead," that strictly applies to the long run only, and the likelihood of relief from duty through death does not normally enter an entrepreneurs' business calculations. Provision must therefore be made for the period of time which presumably lies between the present and the date of death. There is, for instance, the question of overhead costs. We tell our imaginary enterprisers not to worry about overhead costs in making current business decisions. But real entrepreneurs know that overhead cannot all be handled by mere balance sheet adjustments: interest must be paid in hard cash at stated dates. And although to economists it may appear as perfectly obstinate to refuse to accept so obvious a distinction as that between costs which are a function of output and costs which depend only on the lapse of time, there is *some* wisdom in a policy which attempts to keep cash ready for the moment interest charges are due. So much wisdom, indeed, that even the venerable principle that no production really ought to take place unless at least variable costs are covered by expected receipts might break down under the stress of its weight.

I should not, however, if I were asked for it, give the advice to handle the problem by a mathematical analysis of the conditions that would maximize profits over time (*pace* Tintner). I would rather be inclined, in this particular respect as well as more generally in relation to the determination of cost functions, to look for another type of solution. I often wonder if statistical theories and techniques whose

admirable development cannot fail to impress anybody *qua* intellectual exploit have not brought about a propensity to employ refined methods of inference where direct and complete knowledge would be readily available. Why go to all the trouble of measuring cost functions for an individual firm when it would be quite feasible to obtain from entrepreneurs (at any rate from those who open their books to the econometricians) the very best of information concerning the reasons for their decisions? Why not ask them directly, with all the caution required to avoid suggested answers, rather than try to infer in a most clever, but certainly roundabout, and probably incomplete way from dead records what probably is going to be a result irrelevant to actual business men's decisions?

I am not overlooking that the whole distinction between objective and subjective marginal costs and rationality would vanish in the event that private business men were replaced by government managers. The latter, being, I presume, less urgently concerned with the making of profits and the avoiding of losses, may possibly find the necessary leisure and be possessed of sufficient detachment to study marginal costs as they *really* are. And it is quite conceivable that the possibility of hinging price policies upon actual objective marginal costs would represent one of the major trumps in favor of socialism.

V

In this section, I wish to say a few words as to possibilities for future development in this line of inquiry.

In the study of demand, actual individual behavior is the deepest-lying level to which we can dig. Everything beyond is largely in the nature of speculation. I say largely, and not completely, remembering Thurstone's valiant attempt[28] to measure indifference curves by means of psychological experimentation. Nevertheless, it remains true that in that field, where the basic postulate of rationality is strictly analogous to the one which underlies supply theory, the greater part of the operation of this rationality takes place in regions where direct measurement is at least difficult. And being in a position to measure, so to speak, only one end of it, we are free to reconstruct the rest in agreement with any desired schema, *e.g.*, our own conventional consumers' equilibrium, without much fear of contradiction.

The situation is *not* the same in the theory of supply. Costs here, as expenditures there, represent only one of two pillars of the short-run rationality principle. But the other, receipts, or revenues, is observable, at least in principle. And being observable, it has to be observed if we

[28] L. L. Thurstone, "The Indifference Function," *Jour. of Soc. Psych.*, vol. II, 1931, pp. 139-67.

wish to avoid the absurdity of results obtained through application of our rationality principle to information on costs alone, a point which has so strikingly been shown by Leontief.[29]

Now I do not mean to say that any *statistical* approach to total, average, or marginal revenue functions for the firm is advisable. On the contrary, the doubts above uttered as to the significance of statistical cost functions fully apply to similar analyses of receipts. In addition, there are excellent reasons on the theoretical level which speak against any such venture. I am referring to the articles by Hall and Hitch[30] and Sweezy,[31] the simultaneous appearance of which again offers an example of ideas which are *in the air* and find independent and similar expression. And Sweezy's contribution in particular has the virtue of not being written in adaptation to, or in defense against, any previous findings which more or less explicitly claimed to disable preëxisting theoretical expectations. In consequence it may safely be said that there are excellent reasons why the subjective, *i.e.*, actually operative, demand curves should have a kink at the level of the current price. I should therefore again advocate some method of inquiry similar to that used by the Oxford economists, and be inclined to expect significant results. These results might be even more valuable if they could be expanded horizontally, following von Nördling's suggestion, so as to cover conditions, both of cost and revenue, for firms operating in the same or immediately related markets.

Finally, there are no reasons why at the cost end of the matter we should stop at the cost function. Two years ago, Stigler[32] proposed another approach to cost functions, *i.e.*, *via* production functions, such as might be established by engineers. While that still remains a useful suggestion, there are reasons to hope that another type of production function, more diversified than Douglas's, may soon become available, and from these it would be possible to derive cost functions typical for particular industries. The literature on statistical cost functions so far produced has certainly, as all measurements are bound to do, enhanced understanding and awareness of the complexity of the subject. But I cannot help thinking that it also represents a case which bears out just that, and not much else.

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[29] W. Leontief, "Elasticity of Demand Computed from Cost Data," *Am. Econ. Rev.*, vol. XXX, Dec., 1940, pp. 814-17.

[30] R. L. Hall and C. J. Hitch, "Price Theory and Business Behaviour," *Oxford Economic Papers*, No. 2, May, 1939, pp. 12-45.

[31] P. M. Sweezy, "Demand under Conditions of Oligopoly," *Jour. of Pol. Econ.*, vol. XLVII, Aug., 1939, pp. 568-73.

[32] *Am. Econ. Rev.*, Suppl., March, 1940, vol. XXX, pp. 402-03.

MODERN ECONOMICS AND THE INTRODUCTORY COURSE

By Richard Clemence *and* Francis S. Doody

I

The repercussions of events which shake the whole civilized world eventually make themselves felt in the economics classroom. Students, in larger and larger numbers, are looking to the teacher of economics for an explanation of the great changes that are everywhere taking place.

In quieter times students begin their study of economics without a great deal of enthusiasm, and the first few meetings of the class often succeed in putting an end to whatever small interest in the subject they may originally have had. In days like the present, however, the teacher of economics, in his annual retreat from reality, finds it increasingly difficult to take his students with him. He is brought face to face with responsibilities which become no easy matter to evade. Not that most teachers are particularly anxious to evade their responsibilities to their students, but in more peaceful days they may easily do so without being aware of the fact. This is no longer possible in periods of rapid and violent change, and the teacher of economics finds himself in a difficult and embarrassing position. The teacher himself, we hope to make clear, is not wholly to blame for his predicament. It is but one of the symptoms of the generally unsatisfactory state into which the course in introductory economics has fallen. Indications are not lacking that there is a growing appreciation of the inadequacy of much of our teaching, and the time may well have been reached for a clear formulation of the issues.

The teacher of economics has accepted a position carrying with it great responsibilities, for he claims to possess both an understanding of the course of events beyond that of ordinary men, and the ability to impart this knowledge to others. The results of current teaching in most courses in general economics, however, make it difficult to believe that most teachers are living up to their claims. Economists, of course, do not pretend to be able to explain everything important that is happening in the world of reality. Yet, nearly every competent teacher of economics knows vastly more of vital interest to his students than he ever tells them. Our students need all the help we can give them toward an understanding of the forces shaping the future of America and of the world, but we seem obstinately determined to talk about anything and everything else.

Although dissatisfaction with the teaching of general economics is widespread, attempts to improve the situation have not been notably successful. The fundamental nature of our difficulties has not been generally appreciated, and attention has been too largely focused upon obvious, but superficial, defects. For our efforts at reform to be effective it is necessary to recognize the character of our troubles, and to determine the causes of them, before we undertake a course of action. No attempt will be made here to review the numerous shortcomings which have been widely discussed elsewhere, and of which most of us are sufficiently aware. Instead, we shall deal with the broader aspects of contemporary courses, and try to discover the more basic inadequacies, and the reasons why they continue to exist.

Courses in general economics utilize materials which may be crudely classified into two divisions: theory and descriptive matter. Most of the theory taught in introductory courses is the sort usually called static theory. This kind of theory is ordinarily applied to beginning students far beyond the point of diminishing returns. The study of the determination of value and price in perfect commodity and factor markets while dynamic forces are locked up in *ceteris paribus* can be significant to students only if it is frequently emphasized that these forces have been impounded, and only if they are eventually released. If theory is to make a major contribution to the students' understanding of reality, the dynamic forces ought to be freed at the earliest possible moment. This, however, is not usually done. The discussion of value theory goes on in a vacuum, and complications are often introduced which produce a spurious and very confusing illusion of reality. Monopolistic competition, for example, is much more like reality than the purely competitive analysis, but it is not a complete explanation of the real world and is not intended to be. Nevertheless, the refinements of monopolistic competition are often pursued in the classroom until a definite impression has been created that static analysis is much more powerful than it is in fact.

The inadequacy of the customary treatment of theory appears most clearly in those courses which devote some time to what are known as "economic problems." A glance at nearly any textbook of economic problems is sufficient to show that such books contain not merely statements of problems, but also what purport to be solutions of them. Here is implicit recognition of the fact that students cannot actually analyze economic problems, even after the issues have been defined and oversimplified for them. It is not to be wondered at that this should be true. They have learned methods of analysis that apply almost exclusively to stationary states, whereas the problems are those of a dynamic world. It might be supposed that an attempt to apply theory

to reality would make clear to students the extent to which static theory can explain actual situations and the extent to which it cannot. This is rarely true, however, for most discussions of problems make little or no attempt to apply the theories previously taught. Indeed, the problems very often degenerate into long and detailed discourses on the history, present condition, and future prospects of as many different entities as classification can produce.

The use of problems is, in any case, open to serious objection. To reduce the difficulties of the real world to a number of separate issues is to make it almost impossible to impress upon students the concept of an evolving system of interrelated and interacting elements. Anyone who is taught to think of the difficulties of the world as consisting of a number of clear-cut problems to each of which he has a proper solution is being poorly prepared to live in a real world so vastly different.

The attempt sometimes made to mix theory and problems together, instead of dealing with the two separately, is liable to no more temperate criticism. The root of the difficulty is the inadequacy of the static method for the analysis of dynamic problems, however introduced, and both the virtues and the limitations of the static method are hopelessly obscured by the combinations of economic principle, native cunning, and shrewd observation employed in reaching the standard solutions.

Static theory possesses squatter's rights in the introductory course which have been little disturbed by recent advances in the field of business cycle analysis. Even this tentative approach to reality is customarily postponed until the dying moments of the course, and it is then dismissed without any suggestion that it constitutes the principal body of theory applicable to most practical situations. The explanation for this peculiar condition is somewhat obscure. Certainly few of us feel that we have nothing to say to our students about cyclical fluctuations. Nor is it true that students cannot understand business cycles until they have explored all the ramifications of static theory. Indeed, prosperity and depression mean more to students at the beginning of their study of economics than do the topics ordinarily first discussed.

Strangely enough, the excuse usually offered for our failure to incorporate business cycle theory into the introductory course is that there are still too many differences of opinion concerning it among economists themselves. The weakness of this argument is evident when we consider the far-reaching changes which have recently been made in equilibrium theory, and the acrimonious discussions which have taken place concerning them. Yet it has not been seriously proposed that we stop teaching value theory in the classroom until everyone is as well satisfied with it as was John Stuart Mill.

While we are occupied in perfecting our defenses against the en-

croachment of business cycle theory upon the static analysis in our elementary courses, the battle against realism is in danger of being lost through the activities of enemy agents behind our lines. Nothing in recent years has aroused more controversy among economists than the publication of Mr. Keynes's *General Theory* and the literature associated with it. Since the principal work of the Keynesian group has been the analysis of a long-run equilibrium accompanied by less than full employment of the factors of production, their treatment has impinged upon our traditional teaching at one of its most vulnerable points. This is not the place to consider the accomplishments of the Keynesians in detail; opinion is still divided concerning the significance of their work. Our interest is in the contributions which the use of the Keynesian methods and materials may make to the teaching of elementary economics.

From this standpoint the use of the Keynesian analysis provides a means of supplementing the traditional static theory with the study of a model closer, in some respects, to reality. The concepts developed in this analysis may also be applied to short-run phenomena, and some teachers are doing this with a good deal of success. It seems likely that the teacher of general economics who himself likes to think in Keynesian terms will find their use in the classroom effective. Others may be more impressed by the ease with which false issues, such as the equality or inequality of savings and investment, may be pursued, and the facility with which students may be led to an uncritical acceptance of economic panaceas. Those teachers who have doubts concerning the use of the Keynesian system in the introductory course may eventually find themselves forced to accept much of it unless they are able to propose a more satisfactory alternative.

There is little novelty in the charge that much of the theory taught in elementary courses is sterile. It is not so generally recognized that a great part of the descriptive material ordinarily presented is liable to the same indictment. Obviously some discussion of current economic institutions is essential in any course in general economics. If a serious effort is to be made to teach useful methods of economic analysis, description must supplement the theories to give them their proper significance. All too often, however, an exhaustive account of the contemporary scene is undertaken with little or no attempt at theoretical analysis. Many courses in general economics have become so cluttered with descriptions of petty business practices, production policies of individual firms, personnel management, marketing techniques, and the like, as to give the impression that an attempt is being made to divert attention from fundamental inadequacies by talking loudly about things which are hardly economics at all.

Even when description is confined to economic entities, students are

frequently asked to learn much more than their teacher himself can remember from one year to the next. Large masses of facts and figures tend to be taught without any clear conception of their relevance and probable permanence. They are, of course, descriptive of reality but, as commonly used, they contribute very little to the students' understanding of it. It does not constitute an improvement in the course to make the wrong assignments longer and more difficult. Increasing emphasis on the particular and the trivial can only further obscure the general and the significant.

Descriptive matter, of course, is not confined to contemporary institutions, but includes historical material as well. It must be said that the treatment of history in the introductory course is more often than not a complete failure. A principal difficulty is that the discussion of history is seldom focused upon anything at all, to say nothing of the central problems of economics. The aim often seems to be to render to the student a factual account of such phenomena as the development of banking from the goldsmiths to the latest change in reserve requirements. Even when the origins and development of capitalism are explored, students very often fail to acquire the evolutionary point of view. This objective the study of history in the course in general economics ought always to achieve. One cannot expect that students will long remember the facts and dates they are taught, but they should always be left with a general conception of dynamic change and a feeling for the historical process in which their own present world is but a stage. Very often, however, the study of history leads rather to the belief that the process of history has culminated in the American capitalist system under which we may expect to live the remainder of our lives.

Another weakness of the ordinary treatment of history is that it fails to bring out the essential relation between theory and historical fact. Students are not shown how theory suggests ways in which to classify the facts of history, or how the apparently random facts of existence are brought into order through the use of explanatory models. It is not our view that history should be deleted from the course in general economics. Rather, we should seek to develop a method of integrating history and theory in order that the returns from both may be maximized. If historical material is to contribute, as it should, to the students' understanding of a world in motion, the forces making for economic change must not be allowed to lie unperceived under a blanket of meaningless generalities.

Another type of descriptive material commonly introduced into the elementary course has to do with current events and issues. Many courses end, for example, with a discussion of the New Deal, giving par-

ticular attention to the N. R. A., the A. A. A., and the abrogation of the gold clause. Apparently an annual revision of the subject-matter to include the latest bits of economic trivia is conceived by some as a method of making a static course dynamic. A daily reconstruction of the course to incorporate such changes as may have taken place during the night would seem to be the ultimate ideal. The treatment of current issues in the classroom is fruitful only if the students have sufficient background to see the issues in their proper perspective, and enough facility in economic analysis to formulate intelligent judgments for themselves. The fact that teachers often hesitate to raise controversial questions in class for fear they will bias their students is evidence enough that their students have not been properly trained. The reasons why students are not better prepared to deal with such matters have already been discussed. The situation is serious, for it is one of the functions of a course in economics to enable students to distinguish reason from prejudice. If we are not teaching them to do this in the cloistered atmosphere of the classroom, they are being poorly prepared to live in a world inhabited by increasingly clever pressure groups.

Perhaps the most conclusive evidence of our shortcomings is a simple truth of which nearly every teacher of economics is painfully aware. Intensely interested though he is himself in a subject inherently interesting, the economist has difficulty in arousing and holding the interest of his students from beginning to end of the course. He is forced to resort to all sorts of cunning devices in order to preserve the illusion that something is actually going forward in the classroom, and to keep his students from falling asleep. If some of us succeed in deceiving the unsophisticated, and leading them to believe that trivial things are important, it is small cause for congratulation. The plain fact is that we are not teaching our students what they want to know, and what they have a right to expect us to teach them.

It is somewhat easier to point out the nature of our difficulties than it is to discover the causes of them. The question would be less perplexing if economists were generally less competent, and if we could simply admit that they have nothing significant to say. But the study of economics has made considerable progress during the last half-century, and economists have reason to claim that they understand the world about them better than their predecessors of fifty years ago. The same claim, however, can hardly be made for many of their students. In spite of the progress our study has made, the teaching of general economics remains fundamentally what it was in Marshall's time.

One reason for this is that some of us are afraid our students cannot understand the things we know. It takes long years of study to

make a competent economist, and a beginning can hardly be made in a single year. It should be clear enough that a course in general economics will never make an economist out of anyone, and that a great many things economists find it helpful to know are of no use whatever to their students. But students do not have to learn all the useless things before they can comprehend the significant ones. If we insist upon our students starting over again where we began, we are imposing upon them a handicap which is totally unnecessary. It is the function of the teacher to teach his students that part of what he now knows that will be most valuable to them. There is no reason to think that they will be any less apt to learn the things they want to know than they are to learn those we are now trying to teach them.

A major cause of our difficulties is that a good deal of uncertainty exists concerning the proper aim of a course in general economics. Some would hold that we ought to teach our students how to make money. Another group takes the position that we should teach them how to spend it. There are also those who insist that our principal objective should be to teach our students a technique of thinking. With this technique they can perform what is called economic analysis, and solve economic problems. Opinion is again somewhat divided, however, as to whether the major aim should be to teach students to solve the problems encountered in advanced courses in economics, or the problems of the real world. Finally, a considerable number hold that the paramount consideration must be to teach our students about our economic institutions. If we can succeed in getting enough factual knowledge into their heads, it will never again be necessary for them to consult an encyclopedia.

The absence of a single definite objective has the unfortunate result that, in practice, we are often trying to do too many things at once. We attempt to prepare students for advanced study in the field of economics, for successful careers in the world of business, and for life as intelligent American citizens, all in one brief course. Obviously, so much simply cannot be done; the attempt can result only in failure. We would better concentrate all our time and energies on the achievement of some one of these ends instead of leaping into the saddle, like Leacock's horseman, and riding off in all directions.

But even when some single objective is precisely formulated the dead weight of tradition usually prevents its realization. Unless we can free ourselves from this burden at the outset, our attempts to modernize the teaching of general economics simply break down the integration of our subject-matter without disturbing the traditional outlook.

II

It is our conviction that reform in the field of economics teaching must begin with a restatement of the whole problem. The course in general economics requires a complete reorientation which cannot be achieved so long as we are dominated by an archaic point of view.

The general problem, briefly stated, is to determine the most effective method of teaching general economics to beginning students. Since a course in economics is only a part of the larger education of each student, it is unlikely that any single solution could be entirely satisfactory to everyone. Some students, for example, regard the introductory course as a preparation for more advanced studies in the field of economics. It may be that the tools and methods of economic analysis should receive more emphasis in a course designed for them than would be profitable for the rest. Whenever special courses can be offered to fit such special needs, or tutorial instruction can be used to supplement the work of the classroom, it is obviously desirable that these things be done. Unfortunately, however, they are seldom practically possible.

We are concerned throughout the present discussion with those students, forming the majority in most American colleges and universities, who take only one course in economics, and who must be taught in one year as much about the subject as they will ever learn in the classroom. It seems to be generally agreed that the provision of a satisfactory course for these students is one of our most pressing problems. Yet, it is not unfair to say, special attention is too often paid to the needs of some particular minority, while the majority are left to pick up such crumbs as may fall to them from the high table.

Our aim, then, is to determine how best to teach economics to students who will never study the subject systematically again. In only a few hours, constituting at the most a fourth of the students' time during a single academic year, they must be taught that part of what we know about economics that will be most valuable to them during the remainder of their lives. Necessarily, the choice of subject-matter will involve the rigorous exclusion of everything not of vital importance. The criteria of importance must be both relevance and permanence. Students are wasting their time if anything other than economics is permitted to occupy any considerable portion of the course, or if they are required to memorize data having only transitory significance.

There is no general consensus even among economists themselves concerning what is economics and what is not. Our science is still growing, and there is naturally some difference of opinion regarding its bounds. Indeed, it is open to question whether economics is properly

a science at all. We propose here to make use of a definition of our subject which departs somewhat from tradition. We define economics as *the study of the structure and operation of economic systems.*

Before we make use of this formulation as a basis for the choice of subject-matter in the introductory course, we shall say something concerning its advantages. It represents an attempt to give concreteness to the definition of economics, in order that it may be more meaningful to beginning students than those in common use. Experience in the classroom has shown that it does possess certain valuable attributes as a teaching device. In the first place, the definition may be introduced early in the course with some confidence that it will make a positive contribution to the students' understanding of the character of the subject they are going to study. Furthermore, the definition distinguishes between institutional and theoretical materials, and it leads to a ready appreciation of the relation of the more specialized divisions of the subject to the whole. Finally, the inclusion of an undefined term is purposeful; it focuses attention on the question of the nature of an economic system.

An economic system is defined as any set of arrangements by means of which a group of people attempt to satisfy their wants for scarce goods and services. This definition makes it easy to impress upon the student the complexity of the relationships between economic and social and political elements in the real world, and the necessity for abstraction involved in the very concept of an economic system. It is also possible to emphasize the fact that any economic system has definite boundaries only in our minds and never in reality, so that economic analysis alone cannot explain real phenomena without qualification. These highly important considerations are, of course, an old story to every economist, but it is very difficult to impress them upon beginning students. Definitions may often be developed for teaching purposes which, though imperfect from some points of view, are peculiarly useful in the educational process.

We return now to the choice of subject-matter. Any material is of some relevance if it contributes to an understanding of the structure and operation of economic systems. But to make the greatest contribution in the limited time available, it will be necessary to devote our principal attention to the American economy, and to study only the most important elements in its structure and operation. Further than this, the elements we select must be most important, not only at the present moment, but also in accounting for the changes in American capitalism which modify its structure and operation over time.

It has always been difficult enough to achieve any considerable integration of the subject-matter in the elementary course. If we deliber-

ately set for ourselves a task more ambitious than that traditionally undertaken, we run the risk of losing even such small continuity as still remains. It becomes more than ever essential to seek some unifying principle which can be made the focus of attention throughout the entire course; a core around which the study of economics can be built. What is most important, it must be, not a static element, but a dynamic one; an element, if possible, in relation to which the whole process of economic evolution can be significantly explained.

The one concept which best meets these requirements is, we believe, the national income. The entire course may be regarded as an attempt at the solution of a single economic problem. That problem is to explain the forces which determine the size and composition of the national income, its fluctuations over time, and its distribution in both space and time. To some extent this involves a return to the older view of economics as "political economy"; indeed, we are inquiring into the nature and causes of the wealth of nations. But we are no longer dealing with the economics of stationary states, and the analysis is more than an aggregative one. We are not proposing that the elementary course simply be made into a course in business cycles. Though business cycles necessarily occupy a more important place in our analysis than in the traditional one, they are far from being the sole topic of discussion.

We proceed now to a description of the course we are proposing. Our discussion is intended to be suggestive of what may be done, but the details are not of paramount importance and we would not insist that those we admit here are necessarily the best. It is evident that adequate support of our proposal would require the preparation of a textbook embodying the ideas we are putting forward here. We therefore wish to emphasize the fact that most of the necessary materials are already available, and that the principal objective is the development of a new point of view.

The national income is viewed as the resultant of the operation of the economic system over time, and reflects the changing structure of the system as it is modified by its own operation as well as by factors not purely economic. The explanation of the course of the national income and its distribution is made the object of economic analysis, and this explanation involves the study of the structure and operation of the American economic system.

We believe that statistical materials concerned with the national income of the United States since the early period may well be presented at the beginning of the course. The most effective method of introducing such materials is to provide the students with the necessary data and have them draw the simple graphs, using semi-logarithmic scales whenever rates of change are significant. The data first used are total

monetary and real national income, total population statistics, and per capita income figures. With graphs of these data before the class, it is remarkable how many significant questions are immediately raised by the students themselves. The study of economics has begun with facts from the real world, and these facts clearly require explanation. That student is dull indeed whose interest is not at once aroused.

At this early stage it is desirable to treat the data in general terms, calling attention to significant trends—explaining what is going to be attempted in the course, and how it is going to be done. Students not uncommonly pass a course in economics of the traditional sort without once having any clear conception of the relation of the parts to the whole or, in general, what all the commotion has been about. The difficulty with most discussions of these important matters is that they take place in a vacuum, and the students can do little more than try to memorize a number of abstract statements.

We suggest that the next step in the treatment be in terms of the concept of equilibrium, and that the student be given a clear comprehension of the limitations of the analysis, as well as an appreciation of its value for the understanding of many actual situations. There is considerable difference of opinion concerning the extent to which traditional theory contributes to an understanding of reality. It is our view that it does not accomplish nearly so much in the usual course as it can be made to do. To place the theory in its proper setting the question may be raised: Under what conditions would the national income remain constant over time, in composition, in size, and in distribution? The careful analysis of this problem serves to indicate the nature of equilibrium tendencies in the real world, and the conditions under which they may be expected to exert most influence. At the same time the basis is laid for the later treatment of the reasons why, in fact, a condition of equilibrium is never achieved by the whole system.

The discussion of equilibrium tendencies in the economy begins with a brief description of the principal institutions forming the structure of a capitalist system, with emphasis upon the free market. The relation of households and firms to the market is shown, and the forces which tend to bring them into equilibrium are analyzed for the customary time periods. The forms of business organization may be discussed here with particular reference to the meaning of a firm. The aim is to indicate the general character of the structure of the economy at the same time that its operation under given conditions is studied. It may be desirable to limit the scope of the discussion at this stage to the institutions of pure capitalism, and postpone the question of institutional change until the discussion of dynamic forces is undertaken.

The static analysis is developed for group equilibrium and for equi-

librium of the whole system. Value and distribution should be regarded as a single problem here, with no separate treatment of the different distributive shares. Emphasis upon the conditions necessary to the achievement of full system equilibrium forms the basis for the identification of frictions, which make ideal equilibrium impossible to reach, and of dynamic forces, which may set up cumulative movements away from such approximations to equilibrium as actually exist.

Only enough time should be spent on the static analysis to solve the problem with which it was introduced, and the discussion should move on at once to the treatment of dynamic change. This will involve the study, not only of business cycles in the ordinary sense, but of longer movements as well. We have found that a very effective method of treating these phenomena is in terms of the real and monetary national incomes and the interactions between them. With the introduction of movement into the system, the question of changes in the price level becomes significant, and this should be regarded as merely a part of the larger problem. Instead of introducing some one or several of the usual price-level formulae, we define the price level simply as the ratio of the monetary to the real national income. Price-level data now form the connecting link between these magnitudes, and the long-period rises and falls in the price level are related to the movements in output and the monetary circulation. This treatment has a number of advantages in teaching introductory economics. The analysis is simple enough to be readily understood, and at the same time it does not prevent the introduction of any complications that may be thought desirable. It also makes it impossible to divorce monetary theory from the real phenomena with which money is associated, and issues such as price-level stabilization are seen to involve the whole functioning of a capitalist economy.

Fluctuations in the monetary national income are explained in terms of investment and consumption, with data supplementing the theoretical treatment, and the function of credit in a capitalist system is developed. This leads to a study of credit institutions, the banking system, and central banking policies and controls. At no time are such institutions discussed as important in themselves, but an understanding of them is always seen as relevant to the principal problem.

The rôle of profits in a private enterprise economy is stressed and related to the incentives to invest. Here the relation of profits to factor prices may be shown, and the different distributive shares separately analyzed. The treatment makes full use of the shifting demand and cost curves developed in the short-run static analysis, and at the same time data are used to show the functional and personal distribution of income.

It is now desirable to deal with certain aspects of the institutional structure, such as trade unionism and collective bargaining, public finance, and international trade, in order to support the theoretical treatment and place it in its proper setting. These topics are often treated as a series of special problems, but their real relevance is developed by relating all of them to the national income. Fluctuations in trade union membership, for example, are seen to be associated with business activity and levels of employment. Public finance is seen to reflect the changing rôle of government with the evolution of capitalism, and international trade is related to levels of economic activity within the trading countries.

The discussion of international trade leads naturally to some comparison of the American economy to others. This may be done by presenting comparative data for the different aspects of their national incomes, and an examination of the resources of various economies may be undertaken. The resources of the United States cannot be made significant without reference to their relative importance in the world picture, and some indication of their influence upon the relative magnitude of our national income, as well as upon its composition.

The study of fluctuations in the levels of output, employment, and income could be profitably pursued during the remainder of the course. It is important, however, to make such use of the explanations developed as will contribute most to the students' understanding of reality. We believe this can best be done by applying what has been taught to a study of the historical process, and attempting to achieve a synthesis of economic theory and history.

The economic history of the United States consists essentially of a commentary upon the trends in the data already introduced into the course. History is therefore taught, not as an end in itself, but as necessary to the solution of the problem defined at the outset as the object of economic study. History should not be permitted to encroach upon the principal analysis, but should be subordinated to it, and only those historical facts introduced which have most significance for the explanation of the changing trends observed in the data. The dates to be emphasized are those associated with major changes in the behavior of the time series, and attention should be focused upon these series throughout the discussion. The changing character of the American economy should be related to the longer trends in the data, and the broad stages of capitalist development identified.

The concluding note of the course may well be a discussion of the relation of an economic system to the whole of society, and of the relation between capitalism and democracy. Capitalism will then be recognized as involving, not merely an economic organization, but a way

of life, and the various stages in the evolution of capitalism will be seen as phases in the development of our whole civilization. The teacher should make use of everything that has been taught by leading his students to think about the future of the United States and of the world, and about the important forces that are tending to shape that future. He should face his responsibilities with courage, and demonstrate that the study of economics can contribute to an understanding of life in a changing world.

Massachusetts Institute of Technology

COMMUNICATIONS

Silvio Gesell's Monetary Theory of Social Reform

In spite of the attention which has been given to the writings of Silvio Gesell,[1] the stamped money reformer, the unifying basis of his work has, I think, been neither clearly stated nor satisfactorily elaborated. The relation between the theoretical and practical aspects of his analysis has been either ignored, misunderstood or distorted.

Gesell's objective as a social reformer was to attack *rentier* capitalism and to substitute in its place an interest-free society. To fortify his reform position Gesell developed a system of economic theory in which he tried to demonstrate that the nonutilization of resources and the presence of nonfunctional income are the inevitable accompaniments of prevailing financial institutions. The most important single phase of his theory as a whole is his theory of interest. In its critical aspect this theory represents an attempt to show that, in a system of conventional money, interest income is a payment to prevent the hoarding of money. In its positive aspect the theory is an attempt to show that the introduction of stamped money would eliminate "basic interest" and thus pave the way to an interest-free economy. The purpose of this note is to show that Gesell's theory in general and his theory of basic interest in particular represent an argument for his stamped money proposal. This may best be shown by indicating that the practical insight which led Gesell to propose a tax on money was chronologically as well as logically prior to his theoretical system.

That the practical aspect of Gesell's thought was chronologically prior is not difficult to demonstrate. In 1886, at the age of twenty-four, Gesell migrated from Europe to the Argentine to engage in foreign trade and small-scale manufacturing. There he witnessed one of the most speculative episodes in the history of modern capitalist development. The great boom from 1885 to 1890 preceded a long and severe depression which lasted for the duration of Gesell's stay in the South American republic. The frustration of industrial activity produced a strong current of resentment against the speculating financiers, brokers, stock jobbers and mortgagees. As one whose interests were directly affected, and as one whose indignation was aroused by this financial debauchery, Gesell participated actively in the opposition to the group interests which appeared to be responsible for the chaotic state of

[1] *Cf.* J. M. Keynes, *General Theory of Employment, Interest and Money* (New York: Harcourt Brace, 1936), pp. 32, 353-58, 379; Irving Fisher, *Stamp Scrip* (New York: Adelphi, 1933), pp. 60-68, and *Stable Money* (New York: Adelphi, 1934), esp. pp. 141-44; Margaret Myers, *Monetary Theories of Social Reform* (New York: Columbia Univ. Press, 1940), chap. II; H. T. N. Gaitskill "Four Monetary Heretics," in *What Everybody Wants to Know About Money* (New York: Knopf, 1933), G. D. H. Cole, editor, chap. VIII; Arthur O. Dahlberg, *When Capital Goes on Strike* (New York: Harper, 1938); Franz Haber, *Untersuchungen über Irrtuemer Moderner Geldverbesserer* (Jena: Fischer, 1926); Hans Langelütke, *Tauschbank und Schwundgeld als Wege zur Zinslosen Wirtschaft* (Jena: Fischer, 1925).

affairs. His first publication, *Die Reformation im Muenzwesen als Bruecke zum Sozialen Staat*,[2] contained the kernel of his ideas on monetary policy. Between 1891 and 1898, Gesell published five other works on monetary policy,[3] but nothing specifically on monetary or general economic theory. These were the formative years of his career.

When Gesell returned to Europe in 1900 to reside in Switzerland and Germany, his practical reform proposals had already been worked out and published in all their essentials. The formulation of his theory came later. In 1911 he published *Die neue Lehre vom Geld und Zins*, which formed the theoretical basis for his system of social reform.[4]

A more detailed discussion is needed to indicate the logical, as distinguished from the chronological, relation of Gesell's program to his economic theory: first, because it has been the source of more misinterpretation of his position, and second, because of the somewhat more complicated nature of the problem. Keynes, for example, has reversed the relation between Gesell's theory and program. In discussing Gesell's theory of interest, Keynes says Gesell "carried his theory far enough to lead him . . . to the famous prescription of 'stamped' money."[5] Keynes conveys the impression that Gesell arrived at his practical suggestion in spite of a "great defect" in his theory, whereas it would be more accurate to say that Gesell's theory is not, in some important respects, an adequate explanation of his practical suggestion. His theory is a refinement of his insight that money should be forced to circulate by means of a periodic tax which would offset the preference of wealth owners for "hoarding" money rather than spending it for some form of consumable or productive wealth.

Gesell's contention that interest is a payment to prevent the "hoarding" of money classes his interest theory with the "exploitation" doctrines of other socialists. He regards the share of total social income represented by interest as a deduction from the income created by laborers, including industrial capitalists. His theory of interest is not, however, the same as the exploitation theory of Marx. Gesell's position is both anti-classical and anti-Marxian. Although he avowed himself a socialist and professed to be attacking capitalism as a whole, his anti-capitalistic position must be interpreted in terms of his definition of capitalism as "the interest exploiting system."[6] In this particular

[2] Buenos Aires, 1891.

[3] *Nervus Rerum, Fortsetzung zur Reformation im Muenzwesen* (Buenos Aires, 1891); *Die Verstaatlichung des Geldes* (Buenos Aires, 1892); *El Sistema Monetario Argentino, Sus Ventajas y su Perfectionamento* (Buenos Aires, 1893); *Die Anpassung des Geldes an die Bedürfnisse des modernen Verkehrs* (Buenos Aires, 1897); and *La Cuestion Monetaria Argentina* (Buenos Aires, 1897).

[4] This is incorporated in *Die Natuerliche Wirtschaftsordnung*, which has been translated by Philip Pye into English from the sixth German edition as *The Natural Economic Order* (San Antonio: Free Economy Publishing Co., 1936), in two parts, "Money Part," and "Land Part." References cited below are to the "Money Part."

[5] *General Theory*, pp. 356-57.

[6] Gesell's more technical definition of capitalism is, "An economic condition in which the demand for loan-money and real capital exceeds the supply and therefore gives rise to interest." *Natural Economic Order*, p. 110.

connection Gesell's position is similar to that of Gottfried Feder, who in 1923 was appointed by Hitler as the final judge of all doctrinal questions of the National Socialist Party. In Hitler's famous list of twenty-five points, one of the two points in bold-faced print calls for the "Brechung der Zinsknechtschaft," *i.e.*, for the abolition of "interest slavery."[7] Although this anti-finance capital outlook is significant, care must be taken not to identify the liberal, humanitarian premises of Gesell's program with the fundamentally different totalitarian premises of the Nazi party.

In order to explain how unemployment, crises and unearned income could be remedied, Gesell employs a threefold classification of interest rates: the basic rate (a theoretical rate), the rate of return to real capital (an estimated rate), and the loan rate (a contractual rate). Basic interest is described as a purely monetary phenomenon which has nothing to do with time-preference, waiting, or the so-called "productivity" of capital. It does not represent anything which exists in the real world, or at least there are no direct outward manifestations of its existence. Gesell says, for example, "Basic interest has up to the present escaped observation because it was concealed behind its offspring, ordinary interest upon loan-money. . . . Basic interest is a unique phenomenon which must be considered by itself; it is a fundamental economic conception."[8] Attempts to apply the test of correspondence between the concept "basic interest" and the object signified by it are certain to yield negative results because there is no signification of object. The concept has meaning, but there is no question of its (immediate) truth or falsity. There can be no appeal to facts on this level of analysis.

Gesell attempts to clarify "basic interest" by contrasting it with the "rate of return on real capital," *i.e.*, with the hire price paid to the owners of assets other than money. In comparing this rate with the basic rate, he hastens to add: "We ought to cease designating two such fundamentally different things by the same word, interest."[9] This is the reference of Keynes's statement that Gesell distinguishes clearly between the rate of interest and the marginal efficiency of capital.[10]

This same distinction between basic interest and interest on real capital is also used to contrast the declining rate of return on real capital assets with the constant rate of return on money. In this way Gesell points out that it is the money rate of interest which checks accumulation and impedes production. The accumulation of capital assets in no way reduces the independently determined money rate of interest. On the other hand, the accumulation of capital assets does lower the rate of return on real capital. When the latter falls below the basic (money) rate, accumulation ceases because it is now more profitable to hold money than to invest. This forces those who need money as a medium of exchange to pay the (now) higher basic rate. This basic rate, according to Gesell, corresponds to the "difference of efficiency between

[7] Gottfried Feder, *Hitler's Official Programme* (London: Allen and Unwin, 1934), p. 40.

[8] *Natural Economic Order,* pp. 265-66. Gesell's concept "basic interest" is similar to Keynes's "own-rate" of interest on money. *Cf. General Theory,* chap. 17.

[9] *Natural Economic Order,* p. 263.

[10] *General Theory,* p. 355.

money and the substitutes for money (bills of exchange, barter and primitive production) as media of exchange."[11] If it were not that money has a rate of interest of its own (basic rate), accumulation would continue without interruption and the rate of return on real capital would fall and soon become zero.[12]

Gesell did not contend that the introduction of stamped money would cause interest on loans to disappear immediately.[13] His explanation of this is facilitated by the distinction between loan interest and basic interest. Loan interest is used in the ordinary sense, referring to the amount of money paid by borrowers to the lenders of liquid funds. According to Gesell, the loan rate must always equal the rate of return on real capital assets, whether the loan be made in conventional money or stamped money. Loans contracted in stamped money will bear (loan) interest as long as the demand for loan capital exceeds the supply at a zero loan rate.[14] A zero loan rate must await the day when unimpeded accumulation causes capital assets to lose their scarcity value.

In saying that basic interest would disappear with the introduction of stamped money, Gesell means that the consequences which flow from the use of conventional money would be eliminated and processes set in motion which *in time* would reduce the loan rate and the real rate to zero. When this has come about, interest income will disappear, and *rentier* capitalism will be at an end.

In this respect Gesell's ideas on long-run social reform are closely analogous to Keynes's "euthanasia of the *rentier*."[15] The secular decline in the marginal efficiency of capital is another expression for Gesell's long-term reduction in the rate of return on real capital. Keynes tells us he believes that, within a period of a generation or two, unchecked accumulation would make capital assets so abundant that they would cease to yield a return in excess of their cost.[16] Both Keynes and Gesell maintain that pure interest can be made to disappear without socializing the instruments of production. In the new society individuals would still be free to accumulate, but their wealth would not grow automatically through interest accruals. Nevertheless, skilled risk takers would be free to venture their capital in new and uncertain enterprises, and if successful, would get a return in excess of their original investments. Thus the advantages of individual initiative and enterprise would be retained, while nonfunctional income and other undesirable features of the capitalist system would disappear.

The immediately significant difference arising from the substitution of stamped money for conventional forms is that all resources would be continuously employed. Basic interest would not exist as a barrier frustrating new capital formation. The "natural" forces of competitive production would adjust to a level of output at which resources would be fully employed. This

[11] *Natural Economic Order*, p. 263.

[12] In the case of naturally scarce factors, *i.e.*, land, Gesell advocated nationalization.

[13] *Natural Economic Order*, p. 262.

[14] *Loc. cit.*

[15] *General Theory*, pp. 221, 376.

[16] *General Theory*, pp. 220, 377.

is the meaning, in terms of practical consequences, of Gesell's distinction between basic and loan interest.

Thus, the peculiarity of Gesell's position as a theorist is to be discovered in his attitude toward social reform. Only by referring to his general position as a reformer can his theory be understood. The leading concept, basic interest, takes on meaning in terms of the modified behavior of the economic system which Gesell anticipated would follow from the introduction of stamped money. In some important respects his analysis is not fully developed, but in general the pattern is clear. Gesell's theory is primarily an argument for his program.

DUDLEY DILLARD

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War Financing and the Distribution of Income[1]

It is commonly asserted that one advantage of borrowing over taxation in the present juncture is that taxes enacted now will distribute the burden less equitably than would later peacetime taxes collected to pay off the bonds.[2] This assertion does not seem to me at all to reach the real issues involved. It has little relevance for the distribution of the *current* war burden, and it seems as likely as not to be incorrect in viewing the distribution of income by classes over time.

It is surely well established by now, though unfortunately not yet recognized by some of our congressional leaders, that the burden of the present war effort cannot be sloughed off by this generation onto later ones, by borrowing or otherwise. Thus the argument that future peacetime taxes may be more equitably allocated than present ones is largely irrelevant for discussion of an equitable distribution of the current war burden, even assuming that future taxes actually can be more equitably distributed (which is far from certain). In considering the allocation of the burden of war financing, the real comparison must be between the distribution of the tax burden now and the bond burden now (*including the price inflation which will probably come with borrowing*), rather than between present and future taxes. And if it is true that the very low income groups lose especially from inflation—and there is considerable truth in the statement—then even the fact that the rich buy the bonds does not necessarily mean a more equitable distribution of the present burden through borrowing, since borrowing from the rich is especially likely to draw on otherwise "idle" funds and speed price inflation.

The question of the relationship of war financing and income distribution over time (as distinct from the distribution of the war burden) is a much more subtle one than has been generally recognized. It is by no means clear that the low income groups are better off if we borrow now than if we tax, *even though future taxes are assumed to be more progressive than present ones*

[1] I am indebted to Dr. R. A. Musgrave for suggestions and criticisms on this note.

[2] See, for example, J. P. Wernette, "Financing the Defense Program," *Am. Econ. Rev.*, Dec., 1941, p. 761. In accordance with common practice, I shall take "equity" to mean roughly a progressively heavier burden relative to income going up the income scale.

would be.[3] Three simple cases, depending on the type of borrowing and the taxes displaced, may elucidate this point. In these cases by "progressive borrowing" I shall mean borrowing primarily from the higher income groups and by "regressive borrowing" that which comes more than proportionately from the lower income groups, to correspond with the tax terminology in describing revenue sources. In all cases, the assumption that future taxes are more progressive than present ones is accepted. For the moment it is convenient to abstract from the question of individual time preferences.

Case I. In the first case, let us assume that the present borrowing is regressive (perhaps compulsory along Keynes plan lines), and that such borrowing is an alternative to regressive taxation. In this case, the low income groups appear to be better off with borrowing now, since with borrowing they have a claim in a future period on bond redemption income which by assumption will be raised by more progressive taxes. However, a given amount of compulsory saving will almost certainly reduce consumer spending less than the same amount of taxes. Therefore, with the present large inflationary "gap," more price inflation may be expected under borrowing than under corresponding taxes; and, to the extent the lower income groups lose relative to other groups from inflation, any possible long-period gain to them from borrowing is thereby reduced or eliminated.

Case II. In the second and probably more likely case, let us assume that the present borrowing is progressive, and that such borrowing is an alternative to regressive taxation. It is useful to subdivide this case, depending on whether the progressive borrowing correspondingly reduces private spending or comes out of "idle funds."

(a) If the progressive borrowing correspondingly reduces the spending of the lenders, it is approximately as noninflationary as taxes. In this case the low income groups will be better off with present borrowing so long as future taxes are more progressive than those at present would have been if used.

(b) But if, as seems far more likely, the progressive borrowing fails to reduce correspondingly the spending of the lenders, the borrowing is inflationary, and the question of the present redistribution of income and the allocation of the war burden becomes a highly complex one. In judging the effects on the low income groups over time, the question is then whether the future tax system is sufficiently more progressive than the present would have been to more than offset the special losses which major elements of the lowest income groups suffer through inflation. The answer in this case is uncertain; quite possibly the lowest income groups would be worse off with present inflationary borrowing than with present regressive taxes.

Case III. In the third case, let us assume that the present borrowing is progressive, and that such borrowing is an alternative to progressive taxation. In this case the low income groups are clearly worse off under borrowing, unless it be assumed that future taxes to pay off the debt will be even more progressive than those at present would have been if used. This conclusion holds even under the assumption that the present progressive borrowing is non-

[3] If the contrary assumption is made, obviously the basis for the argument under discussion vanishes.

inflationary. If the present borrowing is inflationary, as is more likely to be the case, the likelihood of loss to the lowest income groups is correspondingly increased, as noted under Case II (b).

The introduction of time preferences complicates the matter further. Whether one should assume it is more important for a poor man to have a dollar now as compared to the future than for a rich man is not clear. The answer depends not only on personal preferences (where the poor probably place more emphasis on present income), but also on the absolute level of national real income and its distribution.

G. L. BACH

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A Note on Price Discrimination in Steel

In *Price Discrimination in Steel* (T.N.E.C. Monograph No. 41) it is argued that the steel industry offers very large quantity discounts to the buyers of its products. From this statistical conclusion the authors make numerous inferences, among them that the competitive position of small buyers of steel is endangered and that the federal government pays too much for steel (p. 27). These inferences may be true, but this note attempts to show that the statistics on which they rest are quite unsatisfactory.

The basic data consist of prices and freight charges (actual and charged) on various steel products by size of shipment, in February, 1939. These data are converted to a per ton basis and then summarized by classes. The most striking case is reproduced in the table below as an illustration of the results. The authors conclude that "the price concessions to the big [automobile company] buyers can be seen to be very substantial" (p. 23).

PRICE OF COLD-ROLLED STRIP[a]

Size of Shipment (in tons)	Mill Net	Net Extras	Base Price
Under 3	$138.63	$73.21	$66.51
3 to 10	145.41	72.21	74.37
10 to 30	104.84	45.77	60.25
30 to 100	92.67	32.64	60.78
100 to 300	92.23	34.27	58.51
300 to 1,000	70.88	11.14	59.55

[a] Taken from T.N.E.C. monog no. 41, p. 23.

There is one basic defect in the procedure. The "extras" explain almost all of the difference in the mill net receipts. These "extras" were actual charges, not quoted prices. It is impossible to discover from the monograph whether the decline in charges for "extras" as size of shipment increases is due to lower quoted prices or to reductions from quoted prices secured by bargaining power. Moreover, if this separation were made, it would be impossible for the non-expert to decide which of the two, actual or quoted prices, was more

appropriate to the cost differentials of the "extras." If the "extras" were charged at rates justifiable on cost grounds, there was little discrimination in the pricing of steel. Subtracting "extras" from mill net leaves a mill net for products of standard specification which falls from $65.42 to $59.74, or about 9 per cent, and not the 50 per cent suggested by the mill net figures. This 9 per cent decline could also be due to cost differentials, of course.

The authors meet this point by saying that "quality demands on large orders are frequently very exacting" (p. 23). If this comment is not irrelevant it implies that the charges for "extras" are not proportional to their costs. Since this is a crucial question in the interpretation of the statistics, it would have been reassuring to support it with evidence.

GEORGE J. STIGLER

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The Economists' Tariff Protest of 1930

The economists' statement in opposition to the Hawley-Smoot tariff bill was a unique document. No pronouncement by American economists has ever attracted the public attention that this received. It seems desirable, while memories are reasonably accurate and some of the correspondence relating thereto is still available, to give a brief history of this protest. Since my friend, Professor Clair Wilcox of Swarthmore, who was the leading spirit in the matter, declines to tell the story, I take the liberty of doing so.

With the sharp division of economic opinion in recent years on so many issues of public policy, it is hard today to realize the almost unanimous opposition of economists, in the spring of 1930, to the tariff bill then pending in Congress. Economic faculties that within a few years were to be split wide open on monetary policy, deficit finance, and the problem of big business, were practically at one in their belief that the Hawley-Smoot bill was an iniquitous piece of legislation. What later developed into a statement backed by over 1,250 economists originated in a very modest way out of the desire of Wilcox and some of his associates at Swarthmore to voice their protest. At the suggestion of Wilcox, Professor Paul Douglas of the University of Chicago, who was then temporarily at Swarthmore, drafted a statement in March that, with some changes in phraseology, was the one given to the press five weeks later. It was decided to ask an economist at each of various eastern universities to sponsor the statement, and then to send it to a member of the economics faculty at each American college, with the request that he solicit signatures from his colleagues. Professors E. M. Patterson of Pennsylvania, Frank D. Graham of Princeton, Henry Seager of Columbia, Irving Fisher of Yale, and F. W. Taussig of Harvard, were asked to join Wilcox and Douglas in sponsoring the statement. This they all agreed to do. As a result of the comments of these men a few changes were made in the text, and at the suggestion of Fisher a paragraph was added pointing out the significance of tariff policy in connection with America's creditor position.

Fisher also made the suggestion that the entire membership of the American

Economic Association be circularized, and offered to pay the difference between the cost of this and the estimated cost of the original plan. This was done at a total cost of $137, of which Fisher contributed $105. With the clerical assistance of Swarthmore students, the statement was sent out to over 2,500 members of the American Economic Association with a request for signatures. The response was an amazing one. Inside of ten days nearly a thousand signatures had come in, including those of most of the leading figures in American economics. What had started on a simple scale had snowballed into what promised to be a document of national significance.

Wilcox delivered a copy of the text and signatures to President Hoover, Senator Smoot and Congressman Hawley, and gave the material to the press in Washington for release on Monday, May 3. Political opponents of the bill and newspapermen who sensed the news value of the statement took care of the publicity. Senator Pat Harrison had the statement and the list of signers read into the *Congressional Record* of May 5.

Veteran newspapermen, to whom the nation-wide attention that the statement received seemed to indicate a high-powered publicity campaign, backed by ample appropriations, were almost incredulous when they learned that the protest had been organized and carried through at an expense of less than $140. This was possible only because of a virtual unanimity of economic opinion on an important issue and the release of the statement to the press at a particularly opportune moment.

Frank Whitson Fetter

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Correction

An obviously erroneous statement appears in my recent article, "Tax Shifting in the Market Period," in the *American Economic Review* for March, 1942. The error fortunately does not affect the validity of any of my arguments or conclusions. The incorrect statement appears on the lower half of page 74. It runs as follows: "It is a familiar fact that under both pure and monopolistic competition the individual seller is in market equilibrium when his reservation price is equal to marginal revenue." The statement is correct in the case of pure competition but incorrect in the case of monopolistic competition.

Elmer D. Fagan

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BOOK REVIEWS

Economic Theory; General Works

The Theory of Consumer's Demand. By RUBY TURNER NORRIS. (New Haven: Yale Univ. Press. 1941. Pp. 220. $3.00.)

The recognition of the phenomenon of product differentiation, and its explicit introduction into economic theory, has wrought a substantial change in modern price and market analysis. So far, however, only those implications of differentiation which affect the conditions of supply have been thoroughly explored; it remains to consider its implications for the theory of consumers' choice. It is to the rewriting of the latter theory subject to the assumption of ubiquitous differentiation of products that *The Theory of Consumer's Demand* is primarily devoted.

The book, involving as well a general critique of the theory of choice as it has come to us from the Austrians, from Walras, from Marshall, and more lately from Hicks, is divided into two main parts. The first of these, preparatory to the main thesis, is a straight-forward exposition and evaluation of the indifference curve analysis recently popularized by Hicks. This presentation is wholly in geometric, arithmetic, and literary terms, and serves as a good interpretation of Hicks for the nonmathematical reader. Hicks's principal conceptions of substitutability, complementarity, etc., are investigated; his basic assumptions are explored; and the indifference and marginal utility analyses are carefully compared. While the contribution of this section is largely expository and critical, it should be particularly useful as an introduction for graduate students to the ideas of Mr. Hicks.

The second and principal section is devoted primarily to a theory of choice and demand in terms of related goods or differentiated products. The theory involves the development of three main, related propositions. Of these the first is that people's consumption habits are such that they never consider their expenditure patterns in a "general equilibrium" sense; that all problems of choice are necessarily "partial equilibrium" in character; and that therefore a realistic theory of choice should be primarily concerned with partial rather than with general equilibrium problems of choice. Rejecting the idea of a highly hedonistic individual, the author argues that the individual's consumption pattern is derived not from a conscious calculus of choice among all the items in his budget, but rather from his cultural heritage. This inherited budget pattern is conventional, inflexible, and changes only slowly. Such deliberate changes as are made affect only a limited area of consumption, and are necessarily successive rather than simultaneous. Hence the necessity of shifting theoretical emphasis from the general to the partial equilibrium type of choice decision.

The second main proposition is that the sort of theory of choice indicated

needs first to be differentiated into a long-run and short-run theory, a conspicuous omission on the part of contemporary writers. To this end the author develops first a short-run theory of demand, concerning consumer response to price changes in "a period of time so short that no changes in income and *no changes in established consumption rates*[1] occur." In such a period consumer reactions to price change consist of the hoarding or dishoarding of money, the building up or depletion of stocks of goods, and experimental purchases on items outside the normal budget. Previous commitments have a rigidifying effect on the expenditure pattern, and calculations of marginal utility (or of marginal rates of substitution) have no valid application. The author holds that the short-run theory of demand is particularly distinct from the long-run for the great mass of differentiated, non-staple products which are particularly likely to be stocked in response to price changes, and for "petty goods" purchased experimentally in the short run. Although such a theory is suggested rather than fully developed, the suggestions are penetrating.

The third main proposition is that the basic (long-run) theory of choice must be rewritten to emphasize the primacy of partial equilibrium choices within groups of close substitute, differentiated products. A simple non-mathematical theory is developed along this line, and recognizes two main categories of differentiated groups. The first includes groups of out-and-out substitutes, within which the consumer makes a choice, as, for example, among various makes of automobiles. The discussion of this problem, emphasizing the phenomenon of a single choice from multiple alternatives variously priced, is well handled. The second category of groups is that of complementary substitutes, an innovation of the author. Complementary substitutes are groups of differentiated goods each member of which is specialized to a particular subdivision of a general want—as, for example, tennis shoes, walking shoes, and dress shoes—and which have an aggregate utility when possessed in groups greater than the sum of individual utilities when possessed separately. The establishment of this category is obviously no mere terminological innovation, but a recognition of a real phenomenon heretofore largely neglected. For such goods, which the author believes to be a dominant category, she devises an appropriate theory of choice.

In sum, therefore, what is suggested and developed is a major shift in emphasis in the theory of consumer choice toward choices by the consumer among clusters of competing substitutes and complementary substitutes, as they arise out of the ubiquitous phenomenon of product differentiation. This work constitutes a definite contribution to the theory involved, not primarily on the technical level, as it is argued largely in terms of arithmetic and geometric examples and never in a highly general form, but rather on the level of a revision of basic assumptions and of an exploration of the general implications of these revisions. The major propositions concerning human psychology and habit and concerning the occurrence of products in differentiated clusters are smoothly fused into a consistent major argument.

A final aspect of the work involves some suggestions concerning the impli-

[1] Italics mine.

cations of the modified theory of choice for the demand curves of the sellers of differentiated products. The phenomenon of discontinuity of demand curves at conventional prices, the effect of an increase in the number of products in a cluster on the elasticity of demand for each of them, and other issues raised in recent price literature are discussed, although this treatment does not progress far beyond the expository level. This portion of the work suffers from a limitation common to a considerable portion of literature in the Chamberlinian tradition (not implicit in Chamberlin's own work)—a preponderant emphasis upon the effect of product differentiation on the demand for the individual seller, and an insufficient emphasis on the importance of fewness of sellers within a "cluster."

It would have been appropriate if this highly realistic treatment of consumer choice could have been capped by an equally realistic explicit recognition of the fact that in modern markets pure oligopoly and especially differentiated oligopoly, as opposed to monopolistic competition in the sense of product differentiation plus large numbers, are the dominant categories. All cases of markets involving large numbers are peripheral to these dominant categories in the same sense that the author holds unrelated homogeneous goods like wheat and cotton to be peripheral to the dominant clusters of complementary substitutes. The various subdivisions of the oligopoly category should be explicitly the concern of such a work as this in so far as it touches on sellers' demand.

This limitation, however, in no way affects the substantial merit and novelty of the bulk of the work, which is concerned primarily with the theory of consumer choice. On this level the author has made a substantial contribution to contemporary theory.

JOE S. BAIN

University of California

A Theoretical Analysis of Imperfect Competition with Special Application to the Agricultural Industries. By WILLIAM H. NICHOLLS. (Ames: Iowa State Coll. Press. 1941. Pp. xiv, 384. $3.75.)

This excellent volume is addressed primarily to the large body of agricultural economists. It should, however, prove useful not only to the specialists but also to most economic students who will find in it an extremely readable review of a large sector of current economic theory.

The title is indicative of the dual nature of the book's contents. It is chiefly a theoretical study, but it contains at the same time a great deal of empirical material about agricultural processing and distributing industries. Dr. Nicholls has tried to achieve two goals. First of all, he attempts to demonstrate that agriculture is not, as is so often implied, a sort of sanctuary for the theorists of pure competition. The processing agricultural industries must be studied in terms not of pure, but of monopolistic competition. As it now stands, however, the analysis of imperfect competition may be too complex or ill adapted for practical use in agricultural research. Dr. Nicholls has also set about to remedy these defects.

The small scale of farming operations coupled with the relatively standardized nature of their products appears, at first glance, to fulfill the strictest requirements of purely competitive theory. This is not so, however, for the buying side of the market does not conform to the necessary assumption of atomistic behavior. The three largest buying firms of livestock account for 57 per cent of the total volume handled; the percentage is 46 per cent for tobacco leaf, 38 per cent for wheat, 30 per cent for canned vegetables, 21 per cent for milk. Pure competition among sellers is matched with oligopsony, not pure competition, among buyers. These departures from purely competitive standards are further enhanced by the geographical barriers between local submarkets. What is needed by the agricultural economist, therefore, is a thorough understanding of imperfect competition among buyers and, especially, of the nature and functioning of oligopsonistic markets. Since imperfect competition has been developed mainly with reference to the selling side of the market, the first task is to reinterpret it in terms of imperfections in the buyers' market. Dr. Nicholls's book is largely devoted to the problem of putting into reverse gear the familiar Chamberlinian analysis of monopolistic competition. In a good two hundred and fifty pages he discusses, from this point of view, the various cases of monopoly-monopsony, oligopoly-oligopsony, bilateral monopoly, service and product differentiation, and price discrimination.

The theoretical problem is handled skillfully and in a very readable form. Dr. Nicholls disclaims any ambition to be a "tool-maker" and clings tenaciously to the useful, if ungrateful, task of a "tool-adapter." I cannot help feeling, however, that he is, at time, somewhat too faithful to his models. Although he recognizes explicitly the limitations of particular equilibrium methodology, he makes no effort to escape its fetters and the analysis runs, throughout, in Chamberlinian and Robinsonian terms. The discussion of derived demand, in Chapter 2, would have gained enormously if the now familiar tools of indifference analysis had been resorted to. Only in this way is it possible to make any sense out of the concept of the elasticity of substitution. As used by Mrs. Robinson and Dr. Nicholls, the "elasticity of substitution" is a mere rechristening of the problem which confronts us. It does not bring its solution one step nearer.

The otherwise excellent discussion of oligopoly-oligopsony suffers from a certain hesitancy, on Dr. Nicholls's part, to choose between pure and applied theory. The first half of the analysis is little more than a rehash of Chamberlin's Chapter 3 with hardly any relevance to real agricultural markets. (Incidentally, Dr. Nicholls seems to identify Bertrand's and Edgeworth's solutions of oligopoly. Edgeworth's solution, although starting from Bertrand's model, introduces highly restricted assumptions and concludes that the price will oscillate between the monopolistic and the competitive level, while Bertrand argued that the equilibrium price would be the same as under pure competition. Dr. Nicholls's objections apply to Edgeworth's scheme rather than to Bertrand's.)

The discussion begins to be interesting when Dr. Nicholls takes leave of his authorities and investigates the more realistic situations where one or a few

firms dominate the market. The argument explaining how, under such conditions, the influence of entry is likely to bring about competitive profits, but with excess capacity rather than with competitive prices, is a model of clarity. On the other hand, his assertion that where a few firms dominate the market, we should expect "that prices throughout the industry would tend to be established at such a level as to maximize the profits of the most efficient of the dominant firms" because ". . . in their relationship to each other, a few dominant firms must recognize the most efficient of their number as their leader" (p. 143) seems to me rather gratuitous. Larger size, or superior financial and research means, may—"regardless of efficiency"—be the decisive factor in enforcing leadership among the dominant firms as well as between the dominant firms and the others. In the steel industry, for instance, is the U.S. Steel Corporation the most efficient of the dominant firms?

The section on price discrimination includes a brief discussion of empirical supply and demand curves. I doubt whether this will be of much help to most readers. A disproportionate emphasis is placed on the influence of time-lags upon the shape of the curves, but other fundamental difficulties are hardly touched upon. Indeed, outside of pure competition, it is difficult to give any precise meaning to industrial demand and supply curves. Moreover, would not the supply of many agricultural products depend, not so much on their own prices in isolation, but rather on the relation between that price and the prices of other agricultural commodities to which production might be shifted? Nor does Dr. Nicholls discuss the primary statistical problem of isolating shifts of demand from shifts of supply. I think it significant that, in recent years, the attention has shifted largely from the study of statistical *supply* curves to the investigation of statistical *cost* curves.

Having shown the pervasive influence of monopsonistic factors in agricultural markets, Dr. Nicholls sets about answering a second objection to the extension of imperfect competition analysis to the agricultural field. "The fact that processor-distributors do not directly control the short-run supply of the farm product has . . . frequently been interpreted as precluding the existence of imperfect competition among them" (p. 1). "The natural reaction . . . is that, since there is no control over the supply (hence none over price), there can be no monopoly" (p. 353). Dr. Nicholls points out that this lack of control over the short-run supply of farm products is not relevant to the position of the processor. The latter's monopoly rests upon the control, not of the farm product, but of his processing-distributing services and of their price, *i.e.*, of the spread between the price paid to the farmers and the price received for the processed product. Concentration of control among the processors-distributors need not, however, result in constant spreads. If the dominant firms were able to forecast future supplies accurately, imperfect competition would, just as pure competition, lead to relatively flexible margins. Margin inflexibility should be associated, not with mere concentration of control, but with the uncertainty of the dominant firms as to the responses of producers and consumers to price changes. Personally, I would stress as equally important the uncertainty of each processor as to the reactions of his rivals, and the resulting tendency to price—or, in this case, to margin—stickiness. Finally, it is re-

marked again that in so far as the control of competition and entry is imperfect, profits may fall to the competitive level while the margins remain high, due to the wastes and costs of excess capacity.

This brief summary does not do justice to the book. Dr. Nicholls has made excellent use of his empirical data in illustrating the theoretical analysis. This close interpenetration of theory and facts is, to me, the most valuable part of his work. Those who are looking for an agricultural Burns's *Decline of Competition* will only regret that he did not do more in this direction. Indeed, outside of meat packing and milk marketing the empirical material is rather scanty and comes in mainly by way of examples. In view, however, of the difficulty of the task and of the limitations of space, Dr. Nicholls should be commended for what he did, rather than blamed for what he has not yet done.

My main criticism would rather be directed toward his heavy reliance on a few standard works in the fields which he covers. This is especially apparent in his discussion of economic dynamics and in his treatment of oligopoly. With relation to the latter, the literature reviewed is nearly exclusively Chamberlinian, and no mention is even made of such names as Kahn, Sweezy, Smithies, etc. As a result, the solutions offered are unnecessarily narrow and arbitrary. To a certain extent, this is, of course, unavoidable in dealing with a problem which admits of an infinity of solutions. Much could have been gained, however, by shortening the discussion of the traditional Cournot-Edgeworth controversy, and devoting some attention to more significant models such as cut-throat competition, price stickiness, etc.

As it is, though, Dr. Nicholls has performed brilliantly a most useful service. He has disposed very effectively of the old shibboleth that imperfect competition is inapplicable to the agricultural field. In addition, he has retooled many of the current weapons of monopolistic competition and short-run dynamics in such a way as to simplify their mastery and to adapt them for ready use in the study of agricultural markets. The readers of the present volume will undoubtedly await with high expectations the future writings, alluded to in the Preface, in which Dr. Nicholls will apply his own theorizing to further problems of practical research.

ROBERT TRIFFIN

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Introduction to Responsible Citizenship. By WILLIAM E. MOSHER and Associates. (New York: Holt. 1941. Pp. viii, 886. $3.25.)

Responsible Citizenship is designed as a textbook for an introductory course in social science or human relations. This intent should not blind one to the fact that it can also serve as a highly literate survey for the mature scholar who wishes to sink his teeth into an exercise in perspective and synthesis. The contents represent the equilibrium attained by the faculty of the Maxwell School of Citizenship of Syracuse University after some sixteen years of experiment with various subject matters. The reviewer knows from personal experience the extent to which the detail has been hammered out and

constantly revised in weekly conferences of the representatives of the various social sciences who have shared in the teaching.

The book is a compromise between the compartmentalized, capsule survey course in the social sciences and the integrated fusion course in social science. It starts bravely as a general study of human behavior grounded in social psychology and expressing itself in various aspects of life. This view of social behavior in general is followed by a survey of its peculiar expression in governance. However, the behavioristic approach is almost totally absent in the subsequent treatment of economics and is muted in the history of democracy which follows the economic section. It is again resumed in Part V, under the title "Rival Social Philosophies."

All textbooks and courses aim to promote understanding and social insight, and this is no exception. On the other hand, this particular book belongs to the minority which have the courage explicitly as well as implicitly to motivate their readers toward a given course of social action. With all their hearts, the authors favor the democratic, positive state, and raise alternatives largely to refute them. It is, however, no paternal bureaucracy which is the authors' utopia. At every point the student is exhorted himself to participate in democratic activity, and arguments therefore are given in full. The title is well chosen.

Dean Mosher opens the book with a reasoned essay on the meaning and challenge of responsible citizenship in contemporary society. This is followed by Professor Haring's section on "Social Behavior." In this section, the fundamentals of social psychology are outlined and their expression in society indicated. The Iroquois and Japanese cultures are used as examples, with the obvious and successful intent of leading the student to see institutions in his own culture, not as permanent and God-given, but as the product of time and place. The parts of this section which deal with cultural analysis are better done than those concerned with social psychology. One suspects that the author's desire not to be vulnerable to criticism from the profession may have made him reluctant to commit his views to print with that clarity and precision which is desirable in an introductory course. The result has been a certain blurring in the subject matter.

Professor Beyle's section on "Governance" is clear and interesting, and makes full use of the approaches of the earlier portions. It is abstract in its premises and conclusions, but each abstraction is buttressed by a wealth of concrete illustrations drawn in many instances from the experience of university students. Government is pictured as social control with an ever-varying range of activities. These activities express themselves through institutions, but the latter are pictured realistically, and not as mystical entities. Issues are treated as the outgrowth of motivational differences, and these are traced to their origins.

The section on economics suffers somewhat from the fact that it is not well integrated with the other parts of the book. Considered as a unit by itself, however, the reviewer has nothing but praise for it. In a scant two hundred pages of clear and interesting writing, Professor Ross has packed all of the main features of contemporary institutional economics. By the author's device

of constantly raising questions the student is or should be safeguarded from the temptation of superficiality. The major issues raised include capital formation, monetary control, cyclical variations, capacity for production, state control, and remedies for maldistribution, exploitation, and unemployment.

Professors Galpin, Harlow, and Mosher share the responsibility for Part IV, which in effect is a history of democracy. The contributions of Greece, Rome, the Renaissance and Reformation, the American and French Revolutions, Jefferson and Jackson, and the Progressive Movement are passed in review. The material is compact and closely knit. It succeeds in illuminating the democratic way as cumulative and ever-developing.

The final section treats democracy, communism, and fascism as alternative ways of life. Considering the magnitude of the respective subjects—each assigned but a chapter—a reasonably clear and objective picture emerges. The picture occasionally sacrifices accuracy to the necessity for a measure of oversimplification; and omits altogether certain important aspects, such as the corporatism usually associated with fascism. The contrast between theory and practice in communism is well brought out by Mrs. Fisher, as are also the similarities and differences between communism and fascism. Dr. Mosher contributes the conclusion, which restates the introduction in the light of what has gone between.

In a work purporting to cover the whole field of human relations, a reviewer is almost certain to look for more than it is humanly possible to cover. Nevertheless, the work is not merely a study of democracy, but it is also a tract urging its preservation. Hence one would expect to find pointed out in the contemporary scene the connection between religions which hold the individual sacred and the preservation of human rights. Instead there is a studied avoidance of this approach, and individual rights are discussed either as merely expedient or at the most as in some fashion biologically grounded. Moreover, Professor Haring seriously weakens even this approach when he assumes (p. 172) that democracies are inefficient as compared to dictatorships and tyrannies. However, criticisms of this sort must not obscure the fact that the work succeeds in its avowed purpose. My recollection is that for a number of years the course on which this book was based was consistently voted the "most valuable" by a majority of the students taking it.

ERNEST S. GRIFFITH

Washington, D.C.

Economic History

Burlington West, A Colonization History of the Burlington Railroad. By RICHARD C. OVERTON. (Cambridge: Harvard Univ. Press. 1941. Pp. xviii, 583. $4.50.)

Mr. Overton's study, following the pioneer researches of James B. Hedges for the Northern Pacific and the Canadian Pacific and of Paul W. Gates for the Illinois Central, deals with the organization, methods, and results of the

colonizing activities of the Burlington and Missouri River Railroad. The sources are so abundant that they have provided almost an embarrassment of riches. The records of the land department in the Baker Library at Harvard are supplemented by the official records and archives of the road, various collections of correspondence, public documents, newspapers, and local histories. The only potentially important sources not utilized are German and Scandinavian newspapers published in the United States. The bibliography is too inclusive and indiscriminative. Superficial popular books that can contribute nothing to the subject are included with works of original scholarship, and thirteen textbooks, including one of high-school grade, are listed. The narrative is generously documented and embellished by quotations, pictures, maps, and graphs, and supplemented by an extended documentary and statistical Appendix.

Mr. Overton's historical contribution would have been increased by greater unity of treatment. In the possession of such ample stores of interesting and often highly picturesque material, he is led to turn aside from his monographic labor to consider collateral topics and colorful episodes not pertinent to his theme. Background details, legislative and administrative policies, and descriptions of changing types of rolling stock—however significant and interesting in themselves—could well have been compressed or omitted for the purposes of this study.

The slips and omissions that have been noted are due mainly to carelessness in checking background facts and local details. William J. Sparks was Commissioner of the General Land Office not "Secretary of the Interior." The same James Harlan is given two separate entries in the Index as Secretary of the Interior and Senator. The noted Massachusetts lawyer "Edward R. Hoar" obviously refers to E[benezer] Rockwood Hoar. James Thorington, the first free-soil member of Congress from Iowa, should be mentioned in connection with the railroad land-grant of 1856, for which he received contemporary credit and discredit. Fairfield, Iowa, is in Jefferson not "Henry" County. Experience has not shown that the dry-farming system of Hardy W. Campbell has been "very satisfactory." The extension activities of the Burlington described in the concluding chapter should not be confused with colonization policies.

The author makes an obvious effort to maintain a judicial attitude but he does not disguise his feeling that the historians have overemphasized the gains and underrated the services of the railroads in the disposal of their lands. With the full record at hand, the case is strongly presented for this particular road.

The Burlington was no doubt somewhat exceptional in the standard of its leadership and in its foresighted and enlightened policies in dealing with settlers. None the less the road and its officials were not apart from their time and its business methods. Threatened repudiation to force a certain class of bondholders to convert presses hard the general interest argument. The manipulations of "town site companies" of railroad officials is too easily justified as a safeguard against irresponsible speculation. The extensive intermingling of church and denominational college establishment with settlement

promotions often conducted by ministers, as well as the subsidizing of clergymen and "professors" for various types of "oblique advertising," suggests the curious interrelations of God and mammon characteristic of Jay Cooke. But it should be said for the Burlington associates that their frankly avowed motive was always that of straight business. Incidentally, the opinion held at the time and since that certain Secretaries of the Interior were, for whatever reasons, partial to the claims of the railroads is given considerable justification by the rulings here recorded.

Of necessity the roads followed much the same techniques and practices; they were all a part of the "system" which was often one of trial and error. The B. and M. drew on the experiences of the Illinois Central and even more directly of the Hannibal and St. Joseph and frequent interchange of officials tended to standardize organization and methods.

Considering the limitations, public and private, under which the companies operated, definite conclusions as to relative "soundness" and expediency of particular policies are difficult to reach. What does stand out, in this as in other policies of land disposal, is the lack of definite information and reasoned plan by the government, the corporations, and the settlers. Mr. Overton observes that the question as to whether the development of the country in this way was premature is beyond the scope of his investigation—but it is an issue that cannot be ignored by the student of the economic and social history of the nation.

EARLE D. ROSS

Iowa State College

Economic Systems; National Economies

Russia's Economic Front for War and Peace, An Appraisal of the Three Five-year Plans. By A. YUGOW. Translated by N. I. and M. STONE. (New York: Harper. 1942. Pp. ix, 279. $3.00.)

In spite of a large number of books, pamphlets and articles on various aspects of the Russian development which have appeared since the outbreak of the Russian-German war, there has been no serious publication dealing with the economic problems of the Soviet Union. This gap has now been filled in a very satisfactory fashion by the appearance of the excellent study by Dr. Yugow. Although a political emigré—he is one of the foremost leaders of the Russian Social-Democratic Party (Mensheviki) which has been suppressed in the Soviet Union ever since the early twenties—the author was able to present a highly objective and unbiased history of the three five-year plans. The volume acquaints the reader with all the salient facts in the field of Soviet economics and thus provides a handbook which is particularly valuable at the present time.

The handbook character of this work, however, is responsible for some of its shortcomings. The treatment of the vast subject is organized in a rather infelicitous manner, and the individual chapters—dealing with industrializa-

tion, agriculture, internal commerce, foreign trade, finances, and so forth—tend sometimes to become repetitive and a little dreary. It is a pity, furthermore, that the author never refers to any writings except the ones in Russian, and it certainly would increase the usefulness of the book if its second edition included a bibliography comprising publications in the English language which—whatever their value—are more easily accessible to the reader in this country. Moreover, taking into account and discussing such non-Russian work (*e.g.*, Colin Clark, Dobb, Reddaway, Hubbard, the articles of Chossudovsky in the *Review of Economic Studies,* etc.) would have induced Dr. Yugow to broaden the scope of his investigations and to pay more attention to some theoretical issues which are of considerable interest to the non-Russian economist.

For example, the problems arising in connection with the determination of the size of the national income in an economy in which prices are fixed and goods allocated by a planning authority are not even mentioned by Dr. Yugow. Nevertheless, he uses the figures referring to the changes of the national income and hardly ever questions their significance.

In the same, rather uncritical way he speaks frequently about costs. "The cost of production in Soviet industry is much higher than that of foreign countries or of Russia before the First World War" (p. 39). If it is money cost which he has in mind, then everything would depend on the way in which he evaluates the Soviet ruble in terms either of the Czarist ruble or in terms of a foreign currency. As such a unique relationship between Soviet money and other exchanges certainly does and did not exist, and as the expression "ruble" has in reality always been an abbreviation for quite a number of legal tenders of different purchasing power (depending on the station in life of its possessor, the rations which he was entitled to claim, etc.), it appears doubtful whether it is useful to compare costs in the Soviet economy in monetary terms either with the pre-war costs in Russia or with costs abroad. The comparison would appear somewhat more justified, if the "real costs" (in the Marshallian sense) could be studied and confronted with "real costs" in other countries. But Dr. Yugow does not and presumably could not do this, as data on "real costs" are not easily construed, especially not for Russia.

Speaking of the turnover tax which plays a very significant part in Russian public finance, Dr. Yugow remarks that this tax is highly anti-social (p. 132). That is true, however, only if the inequality of income is very great. He believes, indeed, that such is the case (p. 258) but hardly tries to prove this contention. The degree of inequality and how it compares with other countries could be measured with the techniques of the Pareto or Lorenz curves, but such a research has—to this reviewer's knowledge—never been undertaken[1] and it appears rather uncertain whether it would yield meaningful results corroborating Dr. Yugow's opinion.

But all these more or less important drawbacks are fully compensated by the admirable clarity with which Dr. Yugow analyzes the main issues of the

[1] With the exception of a doctoral dissertation of A. Bergson filed at Widener Library (Harvard University) but unfortunately unpublished.

economic policy of the Soviet Union. The decision to devote about half of the national income to investment and armament resulted by necessity in privations to the civilian population. Shortages of all kinds and tremendous difficulties of administration were unavoidable. Disproportionalities in the growth of individual industries, troubles with respect to agriculture, hitches of various importance were the necessary concomitants of the terrific strain to which the economy of a backward country was submitted by political decision. Form and content of planning are interdependent. Planning for abstinence has to resort to different means from planning for welfare. The information which Dr. Yugow supplies shows what could have been accomplished, if houses could have been built instead of tanks and roads instead of fortresses. One can heartily concur with his hopes that after this war the Soviet Union, freed from the permanent threat of invasion, will be able to use the powerful mechanism of rational utilization of resources in order to secure a steady increase of welfare for her population and thus create the all-important condition for the growth of a free and democratic society.

PAUL A. BARAN

Washington, D.C.

Ekonomika Sotzialisticheskoi Promyshlennosti (Economics of Socialist Industry). By E. L. GRANOVSKII and B. L. MARKUS, editors. (Moscow: Akademiya Nauk, Institut Ekonomiki. U.S.S.R. 1940. Pp. 598. 10 rubles.)

This textbook on economics was written by a group of economists connected with the Institute of Economics of the Academy of Science of the U.S.S.R., and is intended for students in institutions of higher learning who already have had some background in economics and the history of national economy.

In the Introduction, the problems and tasks of socialist industry in Soviet Russia are discussed. The chief problems of the economics of socialized industry are those of an increase in the rate of capital accumulation and the development of factors which will bring about a change from socialism to communism. The solution of these problems will require a further extensive development of socialist industry as a whole and of its separate industries. The direction of capital formation is closely related to the selection of the size of industries, specialization and coöperation, combination, location of industries, and allocation of resources. The economics of socialist industry deals also with the most advantageous combination of large, average and small enterprises and relationships between them, as well as the achievement of equilibrium between industry and related fields. Among other tasks of the economics of socialist industry is that of studying the struggle of the party against the restoration of private capitalism, and to "struggle against bourgeois theories and opportunistic distortions in the field of science" (p. 13).

The material of the text is discussed in the following order:

1. Stages in the development of socialist industry.

2. Industrial program of socialist production, dealing with the volume of production; per capita production; comparisons with foreign countries, particularly the United States; the development of new industries; planning of the production program; allocation of resources; and distribution of goods.

3. Development of the technical bases of socialized production, including technical reconstruction and improvements.

4. Concentration, specialization, coöperation, and combination in industries.

5. The geographical location of industries and the distribution of raw materials. This is the most interesting part of the book, from the point of view of the reviewer, since it describes the location of the main industries, the state of their development and plans for their future development.

6. Capital formation in industries, that is, the amount of capital allocated to the development of various industries. The elements composing these funds consist of capital equipment.

7. Basic funds of socialized production. The process of production requires labor and means of production; the latter are the means of labor (capital equipment, buildings, etc.) and objects of labor (raw materials, semi-finished goods, etc.). The methods of valuation used are: (a) cost of production, (b) cost of replacement, and (c) cost less depreciation.

8. Productive capacity of industries, its use and seasonality.

9. Cost of production and quality of production. In the U.S.S.R. "the price of an article does not represent a monetary equivalent of the cost of its manufacture. Price is the basic lever for the redistribution of the national income and is determined in accordance with definite political and economic policies carried on by the Party and Government in relation to the stage of economic development of the U.S.S.R." (p. 498). For instance, before 1936 prices of metal and coal were below cost of production and the difference between cost and price was covered by the state.

10. Finances of socialized production and their control by the state. The sources of funds needed by industry come from: (a) income and savings of these industries, (b) credits granted by the state and industrial banks, (c) grants from the state budget. Part of the surplus realized from the sale of goods by an industry is turned to the state in the form of turnover tax. In 1937, the turnover tax from industry amounted to 60.6 per cent of the total revenue of Soviet Russia. The state bank grants credits only for (a) seasonal needs, (b) goods in transit, (c) temporary needs, and in some cases for capital repair. Credits granted by the bank represented 37.2 per cent of the total turnover funds of the industry on January 1, 1938.

11. The last part is devoted to administration and planning. The plan of every industry is actually a part of one over-all national plan. This planning is performed by several agencies which receive directives from the Central Committee of the Party.

The book contains a large amount of valuable material and statistical information depicting the enormous industrial development of the country within the last decade or so. However, its value is much impaired by criti-

cisms and attempted but impossible comparisons with the economic structure and operations of the capitalist countries.

M. V. CONDOIDE

Ohio State University

Canadian War Economics. By J. F. PARKINSON, editor. (Toronto: Univ. of Toronto Press. 1941. Pp. vii, 191. $1.75.)

This compact and interesting little volume gives us the story of the Canadian war economy through the middle of 1941. Among the contributors are Professor A. F. W. Plumptre (Organizing the Canadian Economy for War); Mr. Henry Borden, general counsel to the Department of Munitions and Supply (The Work of the Department of Munitions and Supply); Mr. J. D. Gibson, editor of the *Review of the Bank of Nova Scotia* (Financing the War); Professor K. W. Taylor, secretary of the Wartime Prices and Trade Board (The Wartime Control of Prices); Mr. B. M. Stewart, deputy minister of the Department of Labour (Wartime Labour Problems); Mr. L. Rasminsky, assistant to the chairman, Foreign Exchange Control Board (Foreign Exchange Control); and Mr. Tom Moore, president of the Trades and Labour Congress of Canada (Organized Labour and the War Economy). It is striking that practical men of business and academic economists coöperated so successfully in this venture. That they did also reminds one of their coöperation in the administration of the current war economy. In the Canadian war economy, however, the business men seem to be in control more than they are on this side of the border.

This volume is of particular interest to Americans because the Canadian war economy's shift to high gear precedes the American shift. We can learn much. As Professor Plumptre points out in his excellent introductory chapter, Dunkirk was the signal for an intensification of the Canadian effort as it was a warning to Great Britain that she must turn to Canada for more than merely educational orders in the armament field. Unfortunately, in the brief compass of this review, I cannot do more than refer to the excellent chapters of Professor Plumptre and Mr. Borden.

We turn then to Mr. Gibson's essay on finance. Approximately 40 per cent of the national income (1941-42) is required by the government. The expectation is that roughly one-half of the outlay by the treasury will be provided by taxation. This compares with an estimated outlay by the *federal* government in the United States of a little more than one-half of the national income in the fiscal year 1942-43, and the provision of two-fifths of the total expenditures or somewhat more than one-fifth of the national income by federal taxation. Total taxation (all governments) will, however, yield about 30 per cent of the national income.

Mr. Gibson presents a rather ingenious criticism of the point that in periods of unemployment the country should rely on sales of securities paid for out of additional money. Any failure to impose heavy taxes at this point encourages purchases of consumption goods with money earned in the out-

put of war goods. The effects are bound to be inflationary or (when diversions of resources to consumption goods industries follow) to result in a reduction of war output.

On two points, Mr. Gibson's presentation requires correction or amplification. First, he does not make it clear that the payment of taxes out of accumulated balances does not contribute toward a reduction of inflationary pressure; and, second, that the continued rise of production is not an infallible guide of the absence of inflation. Is a rise of output of 5 per cent and a rise of prices of 50 per cent noninflationary?

The next issues are raised by Mr. Taylor's essay on wartime control of prices. The Wartime Prices and Trade Board has ample power to deal with prices: licensing of middlemen, control of distribution, establishment of monopoly buying practices, fixing of prices, etc. In general, the Board has tended to keep prices down through improvements in the distributive process, control of margins, fixation of prices and deals with British buying monopolies. In the case of cod liver oil, however, the Board confronted with the loss of its most important source of supply, encouraged a large mark-up in prices in order to stimulate the saving of fish livers.

Mr. Taylor recognizes the functions of price changes in the economic system. He, therefore, objects to price freezing; but, on the other hand, he realises that, when demand arises rapidly and supply is inelastic in the short run, a rise of prices will not contribute greatly to the provisioning of markets. In the reviewer's opinion, Mr. Taylor overemphasises the contribution to price stability that may be made by adequate monetary and fiscal measures. At least, he fails to note that general measures (*e.g.*, a rise of taxation) directed toward specific scarcities, are wasteful, in that the required dose must be large relatively to the effect to be obtained. It is much better to cut prices and demand in each particular market where scarcities prevail. Then particular controls can be supplemented by general measures.

It is too bad that Mr. Taylor does not discuss the Canadian export price policy. Why are exports exempt from ceilings? Why are American purchasers of Canadian newsprint, for example, forced to pay what the traffic will bear? If the answer is the shortage of dollars, then it would still be better to keep prices down and provide Canada with Lease-Lend aid. It is particularly unfortunate that Canada encourages a high export price policy when the United States applies domestic ceilings to the export field. Finally, it is unfortunate for American policy makers that this book was written too late to enlighten us on the price freeze. I, for one, would like to know whether, because all prices are thus kept down and purchasing power continues to rise, the raids on markets are intensified; or whether the announcement of price stability drives potential buyers off the market. If both factors are relevant, which is the more important one?

Two chapters on labor problems, one by the deputy minister and the other by an important trade union official, reveal a difference of viewpoint on the all-important issue of the wage ceiling. Mr. Stewart seems to approve the limitation of wages to the 1926-29 level. Labor was treated well, for the cost of living had fallen 12 per cent since that period. It is provided, more-

over, that although wages do not automatically respond to a rise in the cost of living, adjustments will be made whenever the cost of necessaries of life rise. In this manner, labor is compensated for unavoidable increases in expenditures and yet the rise of wages is kept down to a minimum. Mr. Moore frankly says that the tie-up of wages with the cost of living (the quasi-freeze) was introduced despite the opposition of organized labor.

Perhaps the most brilliant and most helpful chapter in the whole volume is Mr. Rasminsky's contribution on foreign exchange control. Here we have an excellent statement of the Canadian balance of payments, pre-war and war; of the peculiar difficulties of the Exchange Control Board; and of the measures taken to protect the Canadian dollar. Canada's dollar pool became one of its most pressing war problems because it lost many of its former markets; because the United Kingdom, which could pay in free currency or gold only in part, increased its share of Canadian exports; because Canada, which launched on an all-out program long before the United States, had to increase its imports of raw materials at a disproportionate rate; and, finally, large economies in exports to non-sterling countries were required. The Canadians imposed severe restrictions on imports from non-Empire countries; introduced special measures to stimulate imports from sterling countries (thus saving dollars); stopped exports of capital in a much more vigorous fashion than the United Kingdom had; and finally, through the Hyde Park agreement, solved its dollar problem. Under this agreement, the Canadians agreed to provide large amounts of war materials to the United States; and the latter agreed to finance raw materials purchased by the United States for conversion into war orders of the British.

Professor MacGregor's chapter on "The Standard of Living" gives the reader some idea of the extent to which the Canadians have increased output and consumption and to what extent they have relied on capital consumption. A careful study of consumers' budgets suggests where they may be cut. As in the American case, it seems clear that the Canadians will have to take strong measures to curtail consumption and capital formation—as further expansion of output meets increasing obstacles.

This is a very helpful little volume, both because the problems faced are similar to our own and because we can profit from Canadian experience. They have faced many of the issues that now confront us.

SEYMOUR E. HARRIS

Harvard University

The Structural Basis of Indian Economy. By H. VENKATASUBBIAH. (London: Allen and Unwin, Ltd. 1940. Pp. 156. 7*s*. 6*d*.)

Critics of British rule in India, and particularly of Britain's economic policy in India, differ according to the angle chosen, the particular problem under consideration, and the intensity of the consequent result. They fall into three groups. One holds that the policy of the British in India has been definitely and naturally pro-British and anti-Indian. The second contends that they have

done much, but finds fault for their not having done more. The third school of critics who have lost faith in the existing economic order accuse the British for not only being anti-Indian but also as aligning their forces with the reactionary Indian elements—as the princes, the landlords, and the capitalists—and exploiting the poor millions. While Mr. Venkatasubbiah defies classification, he leans toward the second school of thought.

The present study is perhaps the first of its kind in discussing certain selected aspects of Indian economic development, bringing out the inherent conflict between the British imperial interests and those of the Indian people. The introductory chapter discusses the nature of Indian economic development in the light of and as shaped by India's peculiar cultural, institutional, and political forces. The second chapter analyses the occupational distribution of the people. Here the author has gone on the wrong track of assuming, without even attempting to define overpopulation, that India is overpopulated, and argues that in agricultural countries like India the problem of population should be studied more in the Malthusian sense than in the Marxian sense. While pointing out that the population problem in India is pressure on land, he ignores the importance of the twin remedies—the need for rapid industrialization and the extension of cultivation. The author maintains on insufficient data that population pressure exists because environmental conditions are limited in relation to the needs of these remedies.

The third chapter presents an original and interesting discussion of the basic agricultural economy of India. In tracing the historical evolution of the land revenue policy of the government of India, he brings out all the contradictions of the varied systems of land tenure that the vagaries of the British administrators have forced upon the country. In concluding this section the author points out that all these different types of land tenure were "historically created by imperialism for its dual need—progressive cultivation and regular flow of revenue." In practice the former objective has failed, but the latter has been realized to an abnormal degree.

The fourth and final chapter discusses the absence of progressive industrialization and traces the slow and tardy growth of a few Indian industries. Here is an excellent discussion of the problem of British capital in India. According to the author, "The British conquest of India was not of course the result of monopoly capitalism seeking markets, though the basis of earliest armed conflicts with native powers, particularly in Bengal, was economic exploitation. But when the mother country developed an industrial capitalism, its task was only made easier, since it possessed an already conquered territory, thus avoiding the necessity of fighting to gain a market."

In Appendix A there is a "Note on India's Industrial Potentialities in Relation to Her Mineral Resources." It opens with a highly surprising statement: "India is not so rich in minerals as she is usually boasted to be. A general impression has been created by which India's 'enormous mineral wealth' is assumed and 'the lack of enterprise to exploit them' is pitied." Any student familiar with the wealth of India's resources—potential and exploited—will disagree with this sweeping statement. Were this not a brief review, one could paint a factual picture of India's enormous resources on the

one hand and the failure and neglect to industrialize the country on the other. The reviewer is compelled to wonder whether the author is familiar with the publications of the Geological Survey Department of the Government of India. This statement of the wealth or poverty of India's industrial resources can at best be relative and can never be so absolute as the author states. It depends upon whether one is comparing India's resources with those of Japan or China, Canada or Cuba, Great Britain or Guatemala, the United States or Uruguay.

On the whole, Mr. Venkatasubbiah's book is original and well written. The author, who is a graduate in economics of an Indian university, is an associate of the New Fabian Research Bureau in Mysore. This study is a welcome addition to the meagre literature on this subject and should find a place in libraries of American colleges and universities.

S. CHANDRASEKHAR

New York

This Age of Fable, The Political and Economic World We Live In. By GUSTAV STOLPER. (New York: Reynal and Hitchcock. 1942. Pp. xx, 369. $3.00.)

In an impressive volume, which proposes to "be brutally intolerant of lies and insincerity" and whose "ambition [it] is to be popular but also to live up to exacting scientific standards" (p. xix), Dr. Gustav Stolper, formerly editor of *Der deutsche Volkswirt,* sets out to destroy the fables engulfing the minds of an unenlightened public, which in his opinion are responsible for the ordeals and disasters which have befallen our society. Fables, it may be said at the outset, are such theories, views, or arguments which do not happen to find the approval of Dr. Stolper. As there are very few pieces of equipment in our ideological arsenal which are acceptable to him, the number of fables which he is anxious to refute is almost legion. An amazing variety of subjects are treated in rather pompously written, but highly entertaining chapters, so entertaining, indeed, that for the uncritical reader they may disguise a host of fallacies, misrepresentations, and superficial half-truths potentially more dangerous than all the fables which Dr. Stolper desires to destroy.

Reducing his far-flung discussion to its simple and comprehensible kernel, we discover that the entire campaign against the fables boils down to the not wholly unfamiliar assertion that government should keep out of economic affairs. This fundamental contention is corroborated at some length by theoretical arguments and by a few "case-studies" of which the ones on the Soviet Union and Germany are the most outstanding. The digression into the "theoretical field [is] for the benefit of those readers who wish to enrich their knowledge on matters on which everyone talks so glibly and to immunize them against the writers whose fascination thrives on their brilliant ignorance" (p. 146).

Let us see how Dr. Stolper enriches and immunizes his reader. "Economic crises"—we learn—"are to modern society what sicknesses are to the human body. They are not the normal condition of our society, but they are a natural event in the same sense as sickness is natural in the life of a man"

(p. 146). Whereas most people would agree that prophylaxis and therapy have eradicated many sicknesses, Dr. Stolper thinks differently of the sickness with which he is concerned: "Alternation of better and poorer times cannot be helped and should not be helped" (p. 159). Omitting the question why it *should* not be helped, we may inquire why such alternation *cannot* be helped. The author does not leave us without answer. "As long as total investments (direct or indirect) are equal to our total savings the flow of income may go on undisturbed. The decline of business sets in as soon as investments shrink and a part of savings becomes unemployed" (p. 157).

What is the conclusion to be drawn from this statement which, while not "living up to exacting scientific standards," is at least approximately correct? That government should undertake expenditures to such an extent as to offset the deficiency created by the lack of net investment and provide thus for full employment of resources? Not according to Stolper. "Public investment," he says in his usual apodictic fashion, "cannot bring about a boom or, for that matter, full employment . . ." (p. 160). Because "the reduction in the income flow through oversaving cannot be remedied simply by creation of new money, as is popularly believed. Only if the new money induces new investments will its effects be salutary" (p. 159). The present economic situation, however, permits even the man in the street to study the influence of governmental spending on the level of output and employment, but Dr. Stolper has expected this argument and has his answer promptly at hand: ". . . the fact that the Government was so easily able to create boom conditions and full employment by a vast expansion of armament must not mislead to the fallacy that a peace boom is easy to achieve. The crucial difference is that an armament boom is something extraneous, imposed on a peace economy without competing with private business. . . . The amounts spent on defense might suffice to rebuild the American cities. But were this technically feasible and not in its early phases handicapped by shortages of certain categories of labor, it would create such a wholesale destruction of real-estate values that the effect would possibly be a depression exceeding in severity even that of the early 1930's" (p. 162). What does all this amount to? It amounts, at best, to the observation that if deficit spending, increase in public debt, etc., continue to play the rôle of bogey-men in the minds of some economists and business men, they are likely to be permanently counteracted by investment-strikes. The task of the government in that event will certainly become greater and the solution of the problem more difficult. The only lesson to be learned, however, is not that economists should increase the confusion by adding muddled "theories" about "crushing burdens of gigantic debt service" to the existing fallacies but should try hard to study the real implications of a fiscal policy directed at achievement and maintenance of full employment,[1] and help liquidate the fables which are peddled under the name of economic science.

While Dr. Stolper's resentment toward the New Deal and all progressive

[1] The reviewer is well aware of the difficulties and limitations inherent in such a fiscal policy and treats them in a forthcoming article.

economic thought is couched in forms of "scientific" arguments, his disgust for centralized planning in Russia breaks through in the form of unrestrained distortions. A few examples of the way in which he disposes of all the intricate problems presented by economic experience in Russia may suffice. "The result of twenty-five years of socialist Utopia is in supreme degree just what the socialists accuse the capitalist system of being: chaos and disorder, poverty, a total production at about the level achieved by 1914 before the First World War started, and this at the price of a lowering of the living standard (because of the enormous military expenditures), at the price of the enslavement of a great nation, of the degradation and humiliation of human dignity the like of which the world has not known since the days of Jenghiz Khan" (p. 65).

Does he really believe that a country sighing under the impact of chaos, disorder and poverty is able to wage a total war for nearly a year against the most powerful military machine the world has ever seen? And does our author, "brutally intolerant of lies and insincerities," expect that the reader is going to take what he says seriously if he maintains that Russia has today a "total production at about the level achieved by 1914"? That is said in spite of the existence of 500,000 tractors working on Russian soil and entirely produced at home, an airplane construction which makes it possible to withstand a German air offensive on a front of 2,000 miles, an output of steel which amounted to 18 million tons in the year 1940 as compared with 4.2 million tons in the year 1913, and coal mining which yielded 165 million tons in the year 1940 as against 29.1 million tons in the year 1913.

But Dr. Stolper is unimpressed. There was no necessity to increase production, no necessity to build up a powerful armament industry. "After 1921, once Czarist Russia's former allies had definitely given up their attempts to change the revolutionary Russian system by armed intervention the Soviets might have settled down peacefully inside their own sphere" (p. 281). Instead of behaving in such a prudent fashion, ". . . the Red Army has been served and pampered throughout" (p. 307). In addition the planners indulged in "transplanting of existing basic industries from the western parts of Russia to the center [the Urals, Western Siberia] and to the Far East" (p. 282).[2] In order to carry through such devilish—and superfluous!—projects the Bolsheviks disturbed the peasant, who before the First World War "quietly and contentedly . . . tilled the soil and fed himself and the cities . . ." (p. 280), and imposed unnecessary privations upon the population. "Soviet Russia chose without necessity to impose on her people that plight of initial accumulation over again, for now cheap capital from abroad was to be had" (p. 290). Certainly! Loans to Russia were, as everybody

[2] No existing industries were ever "transplanted." In addition to the development of the existing industrial districts, natural wealth of other regions was tapped, partly for strategic reasons, partly because iron ore can only be mined where it is available. On page 268, Dr. Stolper remarks indignantly: ". . . we look at the Siberian vastnesses whose hidden riches were exploited or neglected according to the selfish whims first of the Czarist, then of the Bolshevist Great Russian imperialists." Then it was not "transplantation" after all? And according to whose "whims" should these riches have been exploited? And since when is development of the natural resources of one's own country called "imperialism"?

knows, an especially attractive feature on the capital markets of the financial centers of the world, particularly at 24 to 36 per cent per annum.

Yet Dr. Stolper is not entirely against armament. "Under any system, it would seem, Russia could have afforded a first-rate army. But under a decent system it could, goodness knows, have afforded popular affluence as well" (p. 307). That is indeed an assertion which, if true, would heavily indict the policy of the Russian five-year plans. Unfortunately, there is nothing either in Dr. Stolper's book or in the historical experience of other countries to support this contention. France and England living under "decent systems," to use Dr. Stolper's terminology, had certainly more affluence than Russia. The fate of France is well known and England owes her survival to the existence of the Channel more than to any other single factor. Where would Russia, enjoying no such natural protection, be today had the Russian government followed Dr. Stolper's suggestions? It would seem that Dr. Stolper would not mind if the Germans were to replace the Communist regime. Since according to his theory of imperialism there is no such thing as colonial exploitation, the Russians ought, instead of fighting, to be grateful for the privilege of experiencing the benefits of the German "organizational genius."

Since Dr. Stolper's competence in matters economic and Russian appears, to say the least, rather dubious, let us turn to his discussion of Germany. There is a field where he is regarded as an authority. "Central Europe, in fact, has been socialized or nationalized ever since 1914" (p. 25). ". . . National Socialism in Germany and Fascism in Italy never were anything but socialist orders . . ." (p. 133). Everybody is perfectly free to define socialism and nationalization in any way he pleases. But the definition which is used has to be clearly stated, consistently applied, and, furthermore, make some sense. If governmental interference by itself makes a socialist society, then the term loses all analytical significance. Governmental control in the age of mercantilism was no less rigid than in the Germany of Weimar. It could hardly be said that there is no difference between the "socialism" of this German republic and the "socialism" as established by Hitler. According even to Dr. Stolper, there must have been some. Because, after we are informed that Central Europe has been socialized ever since 1914, we are told that "by that time [Spring, 1938] German economy was completely socialized in everything except the emptied title to property" (p. 327). That these "empty" titles to property still accounted in the year 1938 for 28 per cent of the national income[3] disturbs Dr. Stolper very little. Since Russia and Germany are equally socialist,[4] and since "not one single major war in the last one hundred and fifty years—the capitalist age—had its origins in economic causes or was waged for economic interests" (p. 192), one might ask, why they are fighting the present war. This quite important question for an author preoccupied with the "political and economic world we live in" remains unanswered. We are

[3] Maxine Y. Sweezey, *The Structure of the Nazi Economy* (Cambridge, Harvard Univ. Press, 1941), p. 208.

[4] "Ironically enough . . . this total war (as far as Russia is concerned) does not have to be fought against 'world capitalism' but on the contrary *with* world capitalism against a rival 'socialist economy' " (p. 307).

left just as unenlightened with respect to all other problems connected with German development since 1933. Analysis is replaced by findings such as this: "Hitler's uncanny instinct is his medium-like reaction to the oscillations of the German soul" (p. 317); "From Munich onward German diplomacy was almost grotesquely idiotic" (*ibid.*).

Such samples of factual information and analytical acumen could be easily multiplied. The reviewer regrets to be unable to point to, at least, a few bright spots in the darkness of *This Age of Fable.* He searched for "extenuating circumstances." He found none.

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Business Cycles and Fluctuations

Investment and Business Cycles. By JAMES W. ANGELL. (New York: McGraw-Hill. 1941. Pp. xviii, 363. $3.50.)

Prospective readers of a book presumably are most interested in what they stand to gain from it. On this basis I believe we should go first to a group of three chapters (9-11) which, though not explicitly labeled thus, constitute Part II, devoted to the concept of the multiplier. Angell was one of the first to perceive Keynes's error in relating the multiplier to the propensity to consume,[1] since this treats planned saving as if it were all hoarded, and to insist that spending, whether upon consumer's or producer's goods, governs the relation between investment and income increments. The retention of Keynes's definition would indeed permit a *conceptual* distinction between the multiplying force running from a particular increment of public-works investment and *its own* effect upon income on the one hand, and multiplying forces running from any private investment on the other hand, such as might be functionally related to the increased consumption (acceleration principle) or to the increased public investment, or not functionally related to either (routine investment of savings). But if the Keynesian definition is retained, statistical operation is either stopped or utilized in a misleading fashion, since statistics of income will inevitably include the effects of these "other" forces. Angell's definition of a multiplier in terms of the propensity to *spend* not only supplies the actual arithmetic link between money and income—the income or circular velocity of money—but it also permits legitimate statistical operation with the available aggregative figures of money, velocity, and income.

Angell is thus able to utilize his extensive velocity analysis, developed over a number of years, to produce one of the really notable treatments of the multiplier to date. Arithmetically the average circular velocity of money is obtained from the separate velocities of active and hoarded money. Since on the one hand the velocity of active money can be assumed to be practically a

[1] Aside, of course, from the tautological and meaningless definition of this propensity in terms of the multiplier itself; *cf.* Angell, pp. 189-90.

constant through its being rooted in the payment *mores*, and since on the other hand the velocity of hoards is zero, any change in the average circular velocity is normally caused by a change in the relative proportions of active and hoarded money. Thus Angell is able to relate changes in circular velocity to the marginal propensity to spend (or hoard); and by reference to data beginning in 1899, to assign definite values to the latter through working out the average and marginal velocity figures. The results show a noteworthy long-run stability of average velocity and of the relation between money stock and income. Prior to 1929 the marginal and average velocities tended to close conformity at about 3 per annum; thereafter the average fell heavily to 1933, but again assumed relative stability at about 2.19; and the marginal velocities, indicative of increased hoarding, in comparison to the averages respectively for 1929-33 and 1933-39 stood at 4.99 compared to 2.61, and 1.75 compared to 2.19. Aside from short period changes such as those of 1929-33, Angell's equations permit the approximate forecasting of multiplier values. Finally, attention should be directed to his valuable distinction between the "vertical" and the "cumulative" multipliers, referring to its value per unit of time and through infinite time, respectively, and to the contrasting values of the latter under conditions of increasing, constant, and decreasing anticipations (pp. 196-97).

The noteworthy accomplishments of this analysis in relating the multiplier to the propensity to consume and in the statistical elaboration of this concept are in no way impugned by three critical observations which follow. In the first place, the conventional implication seems to have been a multiplier in *real* terms, but Angell has omitted the method of deflating his purely monetary figures. Secondly, while Angell correctly objects to the Keynesian multiplier on the grounds of its assumed constancy of the marginal propensity to consume, it is curious that he holds it to be "rigorously correct" if the latter condition is realized (p. 193), when he has justifiably altogether repudiated the correlation of the multiplier to the propensity to consume. Finally, there is the objection recently offered by Salant that the *lag* of the income effects of new investment cannot be mechanically derived from a period of monetary circulation— unless, I might add, people have no hoards, cannot borrow, or do not "anticipate" income. Otherwise an increment of investment at any point in the economy *may* give rise through favorable anticipations to an immediate increase of expenditures elsewhere, and thus to an immediate increase of income all the way around.

It is impossible to dwell upon the essays in the concluding three chapters, which in effect constitute a Part III on economic policies; just as it is impossible for the reviewer to do more than recommend their sound judgment and careful elaboration. The data presented in the last essay upon defense financing are now obsolete, but the general argument as to the possibilities of marked price advances have been justified by the developments of the past year. The essay on "Government Spending and Business Cycles" (chap. 12) shows the theoretical possibility of a miscarriage of the policy (pp. 211-21); reviews the history of public spending since 1931, which revealed a failure to

prime the pump (pp. 221-34); and finally weighs the dangers of increasing public indebtedness and the eligibility of other cycle controls, such as taxing hoards, central bank devices, and stabilizing the supply of money. In the chapter on "Secular Stagnation and Government Policy," Angell does not agree with the thesis that secular stagnation arises from "an alleged lack of investment opportunities in the purely technical sense," a position which has also been ably represented by Professor Fellner and maintained by others.[2] Angell objects that the closing of the frontier and the declining rate of population increase in the United States considerably antedated the onset of protracted depression; he calls attention to the potentialities of investment in new housing, and refuses to assume a prophetic rôle as to a dearth of technical advances in the future. On the other hand, the obstacles to international trade and finance and the developments under the New Deal adverse to private venture capital seem to him to be adequate to account for the hesitancy of investment. The only regrettable omission is the adverse effect of restrictive measures upon output, including government limitations and private monopolies. Professor Angell's analysis of the causes of lagging investment merits the close attention of all students of the problem.

Angell's theory of business cycles, presented in the first seven chapters of the book, resembles Keynes's more than Mitchell's in its readiness to reduce the whole story to the movement of a very few aggregative variables, a characteristic which is set in relief by the use of a series of highly simplified quasi-historical graphs somewhat after the example set by Kalecki. The great variety of forces such as are involved in Mitchell's description of the self-generating cycle, or in Haberler's painstaking analysis of the stresses and disproportionalities developing in revival or contraction and their complex interplay at the crucial turning points, gives place to the behavior of four magnitudes viewed mathematically as "functions" of anticipations—investment, consumption, income, and money balances. But saving, the chief devil in the Keynesian piece, plays no rôle nor do variations in the rate of interest. Initially (chap. 1) both investment and saving are defined in an *ex ante* sense as schedules of demand for and supply of investment funds; thereafter a curve representing the equilibrating points of a series of such schedules is first labeled "D, S" with a note (p. 25) to the effect that it carries no implication as to the equality or inequality of saving and investment, but later the function is called simply "investment." Somewhere in the process *ex ante* saving and any possible contrasting behavior with *ex ante* investment get lost for the theory, though in a completely covert form they play a very significant rôle in the behavior of hoards. Whether by accident or design the Keynesian propensity to consume also disappears;[3] indeed the diagrams (pp. 34, 37) show consumption

[2] William Fellner, "The Technological Argument of the Stagnation Thesis" *Quart. Jour. of Econ.*, August, 1941, pp. 638-52; Sumner Slichter, "The Conditions of Expansion," *Am. Econ. Rev.*, Vol. XXXII (March, 1942), pp. 1-21; Howard S. Ellis, "Monetary Policy and Investment," *Am. Econ. Rev., Suppl.*, Vol. XXX (March, 1940), pp. 27-43.

[3] Except when the author inadvertently uses this term when he actually means to employ his own concept of "propensity to spend," *e.g.*, pp. 97, 100, 258, 283.

increasing more slowly than income as functions of rising anticipations up to a certain point, but thereafter more *rapidly,* the direct opposite of the Keynesian supposition.

Chapters 5 and 6, setting forth the reasons for abandoning interest rate variations as causally significant for cyclical variations, will puzzle many a reader. Angell distinguishes three concepts: (1) *expected* yields on new investment, (2) *expected* yields on existing assets, and (3) the interest rate, defined as "the current" (or "the market") rates of yield which can be obtained by the purchase of equities (or "physical assets") at current prices. Keynes, he believes (p. 41), represents the amount of new investment as the result of an "equilibrium" (*sic*) between the first type of yield ("the marginal efficiency of capital") and the third type ("the interest rate"); but, says Angell, interest rates (3) are never except accidentally equal to (2) and *a fortiori* are not equal to (1). "The potential purchaser's actions are determined by a comparison of *expected* yields on new investment and on existing assets, but not by a comparison of either of these with current *market* yields on existing assets."[4]

Actually Angell's (1), (2), and (3) are all the same, the marginal efficiency or productivity of capital, and nowhere does he have a rate of interest as a contrasting concept. For surely it is the expected yield on *new* investment (1) which sets the expected yield on *existing* assets (2), aside from the survival of incorrect and by-gone evaluations on the latter which Angell nowhere posits; and as surely it is the *expected* yield on assets (1) or (2) which sets the current *actual* (or market) yield on existing assets (3), unless current valuations have no reference to the future, which cannot be Angell's contention. The "interest rate," as a contrasting concept, is not the yield on *assets,* present or future, but the return on a *money* loan (4). Yields on assets represent the productivity or marginal efficiency of real capital (the "real," "equilibrium," or "natural" rate) in contrast to interest on fluid funds (the "money" rate, or in Keynesian terms, "the" interest rate). This is the necessary contrast which has prevailed from the time of Ricardo through Wicksell to Keynes. Moreover, no one of these writers, including Keynes, maintained a necessary equality of (1) and (4), which Angell incorrectly described as (3): it was a *divergence* which accounted for investment. And it is *this* divergence which is roughly indicated by the contrasting behavior of long-term bond yields and short-term loan rates, which is Angell's only recourse to empirical data in this discussion (p. 45, n. 1).

After this unfortunate excursus into concepts, Angell touches—altogether too briefly (pp. 50-52)—upon the *real* reason for limiting the rôle of interest rates in determining investment, *i.e.,* the importance of other costs, and of variations in expected demand. Finally Angell objects to the Keynesian theory of interest itself on the grounds that market rates and money stock do not move inversely, liquidity preference being constant. The present writer does not view the Keynesian theory as a complete explanation of interest, though

[4] P. 49. The italics are Angell's.

liquidity preference is of course one element. But Angell seems to confuse changes in the liquidity function itself with movements along the schedule (pp. 62-63), which is what Keynes means by a constancy of liquidity preference; at any rate Angell accepts the Keynesian inverse relation of money and interest in an ensuing paragraph (p. 63, bottom).

The abstract theory of business cycles culminates in a "Description of the Cycle" (chap. 8), half of which pertains to the upper turning point (pp. 92-113), two pages to the lower turning point (pp. 113-15), and the rest to general observations on self-generation, exogenous factors, etc.. And it is precisely upon this much-emphasized upper turning point that the theoretical structure is weakest. According to one version (pp. 93-95), the downturn comes about "inexorably" (pp. 99-100) through three forces: (1) an adverse development of costs relatively to prices; (2) a short-run "saturation point" in particular fields; (3) the decrease of the marginal propensity to *consume* and increased hoarding. We learn later (p. 110) that this development is *not* inevitable; that for a time, so far as concerns force (2), investors may turn to other fields; by consequence, aside from rising costs (1), the over-all limitation comes in force (3). But so far as concerns hoarding, more particularly, he elsewhere argues convincingly that "after the expansion is well under way, people hoard little or none of any current *increases* in income but spend all of them either on consumption, or increasingly, on investment," and even a temporary set-back will not prevent the maintenance of current consumption and programs of investment (p. 200, his italics). Indeed the most plausible hypothesis seems to be that the downturn comes in expectations, plans, and the placing of advance orders; the reduction of current spending (*i.e.*, hoarding) comes, as Angell proved statistically in *The Behavior of Money* (pp. 125, 126, 158, 159), "with or after, not before" the peak of most measures of economic activity.

Retrospectively over these chapters, the net yield for the development of cycle theory seems rather meager. Angell's insistence upon the rôle of velocity in increasing the amplitude of cyclical variations offsets the curious intransigeance of Keynesians upon this point; and he is right furthermore in his scepticism of the dominating position sometimes assigned to interest rate variations. The contrasting behavior of *ex ante* saving and investment may have been overemphasized by certain schools, but it may be doubted whether it should be completely abandoned. For the rest, the theory consists essentially in a rigorously simplified version of the acceleration principle and the introduction of "anticipations" as a uni-dimensional independent variable. One is left wondering whether the simplified schemata do not sacrifice too much of the descriptive and analytical value of the recent extended literature on these subjects.

It is to be hoped that the reviewer's lack of enthusiasm for one half of Angell's volume will not interfere with an appreciation of the really distinguished services performed in the second portion.

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Public Finance; Fiscal Policy; Taxation

American Public Finance. By WILLIAM J. SHULTZ. 3rd ed. (New York: Prentice-Hall. 1942. Pp. xxiii, 874. Trade edition, $6.00; school, $4.50.)

In spite of the large number of pages in this book, when its format and the space devoted to tax forms in the Appendix are taken into account, it represents one of the briefer treatments of public finance now available. The field, however, is covered in a clear and concise manner. Especially to be commended is the emphasis placed upon the constitutional and legal background necessarily to be taken into account in the development of revenue systems. Ample evidence is presented that "judges are methodically ignorant of what everybody else knows to be true." The attention which is called to the problems arising from intergovernmental relationships is timely, since such problems will undoubtedly assume greater importance in the years immediately ahead.

In some treatments the reader undoubtedly will desire a fuller discussion of the economic consequences involved in addition to the treatment of administrative problems which the author gives so adequately. For example, especially in these days of war financing, a more adequate treatment of the economic consequences of taxation in comparison with borrowing as a method of financing an emergency would be helpful. The question may be raised as to why a chapter should be called Highway Taxes when other chapters are called Property Taxes, Income Taxes, etc. Certainly highways have not been used as a base for taxes, but taxes levied upon other bases have been spent for highways. Other questions, such as using cost as the distinguishing characteristic between a tax and a fee, might be raised, but they would deal with details rather than with the main purpose of the book. In this treatment of American public finance, Professor Shultz has performed a commendable service.

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Money and Banking; Short-Term Credit

Exchange Control and the Argentine Market. By VIRGIL SALERA. Stud. in hist., econ. and pub. law no. 485. (New York: Columbia Univ. Press. 1941. Pp. 283. $3.50.)

The history of exchange control in South America offers a rich field for the economist, but up to the present, literature in English has dealt almost exclusively with European experience. Dr. Salera's pioneer study traces the development of Argentine exchange control from its beginning in October 1931 to the middle of 1940. Argentina abandoned the gold standard in December 1929 and for nearly two years had a free exchange market. The immediate occasion for the establishment of exchange control was not a flight of short-term capital of the panic type so common in Europe in that period, but the

withholding of their foreign bills by the great cereal export houses, with a consequent reduction of the supply of exchange.

In its original form Argentine exchange control involved no discrimination as between countries, but inside of two years it became a means of flagrant discrimination against American trade. British exporters had been steadily losing out in Argentina, largely to American exporters, but the United Kingdom continued to be the best customer of Argentina, and in the late 1920's and early 1930's British imports from Argentina had been over twice its exports to that country. With the adoption of protection in Great Britain in 1931, and the trend toward Empire bilateralism represented by the Ottawa agreements, Great Britain, by threats and pressure that savor far more of rough-handed German methods than of the English tradition of commercial policy, forced Argentina to discriminate against American trade in favor of British trade. This was done by granting exchange for imports from Great Britain at a lower rate than for imports from the United States, by surcharges on American imports, by purchases by government agencies in Great Britain at substantially higher prices than those quoted in the United States, and by import quotas.

Salera thoroughly documents his thesis that the British were largely responsible for pushing Argentina to its extreme forms of bilateralism. Those who think of German bilateral trade policy as the principal obstacle to the acceptance of the Hull trade policy in South America will find this account a revealing and perhaps a disillusioning one. Salera's conclusion is that Argentina is not likely to return to a nondiscriminatory commercial policy by British initiative (p. 245), but that the United States, by its tariff policy, and a relaxation of the present arbitrary quarantine regulations, could reduce Argentina's dependence on the British market, and play a positive rôle in bringing an abandonment of narrow bilateralism in South America.

Salera makes the well-taken point that Argentine exchange control cannot be appraised in terms applicable to European experience, and states that "there has not been the slightest attempt to pervert exchange control to the furtherance of totalitarian ends" (p. 253 n.). The study also indicates little attempt to use exchange control as a substitute for tariffs in building up local industries.

The story that Salera tells is well worth telling, and the book represents careful research and competent analysis. It is unfortunate that the manuscript was not subjected to a rigorous editorial revision before publication. As it stands, the ponderous style oversteps even the standards charitably applied to doctoral theses. References to British and American exports to Argentina as "originations" (p. 239); "the proliferation of discriminatory preferences" (p. 147); an "unwithstandable" temptation (p. 177); peso appreciation "inexorably on the march" (p. 185); the authorities that had "given birth" to a classification (p. 221); and "the maintenance of a dual market type of exchange control in the free market of which the whole gamut of transactions might be consummated" (p. 201), are a few samples of what the reader faces if he is to battle his way through the book.

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Ceylon Currency and Banking. By B. R. SHENOY (Madras: Longmans Green. 1941. Pp. xl, 300.)

This book dealing with the history, institutions and problems of Ceylon's currency and banking is designed for students of monetary problems not only of the island of Ceylon but also in a general way of India. While there is a fairly large amount of literature discussing the problems of Indian money and banking, there has been no complete and scientific study of Ceylon's monetary problems. Ceylon, though not under the government of India, has rested in the shadow of her great neighbor. Recently, however, since she was placed upon the agenda of Japan's aggressive expansion, keen interest has been evinced in the peoples and problems of the island which has a population as large as that of the continent of Australia. While this book does not discuss the political institutions and economic problems of the island, the treatment is broad enough to indicate the general economic problems of Ceylon. In this respect it fills a long felt gap.

The first two chapters, nearly forty pages, trace the island's currency history, embracing the successive rule of native, Portugese, and Dutch administrations. The author in his Preface expresses his hesitation in retaining this material in the book. While it is true that the subject matter concerning the genesis and growth of the currency system is the special concern of the numismatist and the currency historian, it has interest for even the general reader and serves as a desirable introduction for the currency system that exists now under the British rule in Ceylon.

The next two chapters deal with the monetary problems that the early British rulers were confronted with and how they attacked them. There is a discussion here of the events that led to the appointment of the Swettenham Currency Commission of 1869 and the Lascelles Currency Commission of 1902, their respective recommendations and the government's action thereon. The fifth chapter enquires into the island's paper currency.

The three succeeding chapters present an able and interesting exposition of the banking systems and problems in Ceylon. The exchange banks, the joint stock banks and the indigenous banking—all receive due attention. All the exchange banks in the island are entirely British, unlike India where there are several non-British exchange banks. Apart from the branches of the Imperial Bank of India and the special position of the Reserve Bank of India, in Ceylon, there is only one Indian joint stock bank in Ceylon. The author has dealt briefly with Chettiar banking in Ceylon. The Chettiars of South India form a commercial caste and are a banking community. They have done pioneering work in this direction in most Asiatic countries. According to some critics they are very welcome since they provide cheap short- as well as long-term credit. Others consider them unscrupulous exploiters. There has never been a scientific and impartial study of their banking methods in the light of modern conditions. I wish the author had given more space to this question, since the foreign student is more interested in this institution than in the joint stock and exchange banks with whose operations he is more familiar. It would also have been well for the author to explain Indian terms, such as *Hundis,* for the benefit of the American student.

The last two chapters deal with the (Draft) Paper Currency Ordinance of 1939 and the present position of the Ceylon rupee and its relation with the Indian rupee and British sterling. The book closes with an excellent discussion on the case for and against the creation of a central bank for Ceylon. The present exchange control regulations of the island, introduced to meet the war situation, form the subject of an Appendix. Sir Cecil H. Kisch recommends the book in his Foreword.

The author, a graduate of both an Indian University and the London School of Economics, is now a lecturer in economics at the Ceylon University College, Colombo, and as such is well qualified to write this book. This study, the first of its kind for the island, is scientific, clear, and informative and as such is a welcome addition to the meagre literature on the monetary problems of countries in the East.

S. CHANDRASEKHAR

New York

Business Finance; Insurance; Investments; Securities Markets

The Investor and the Securities Act. By HOMER V. CHERRINGTON. (Washington: American Council on Public Affairs, 1942. Pp. x, 253. Cloth, $3.25; paper, $2.50.)

Dr. Cherrington, professor of commerce at the University of Iowa, has limited his examination to the Securities act of 1933, the so-called "Truth in Securities Law." Although he recognizes the disadvantage of the private investigator who does not have access to the files of the Securities and Exchange Commission, the author thinks it worth while to use the available information for an appraisal of the law and its administration to date.

The book opens with a discussion of the evils which were responsible for the legislation. The closing chapter reviews the results of the legislation in relation to each of these practices. Other chapters deal with the proposals for reform prior to 1933, and an outline of the provisions of the law and the work of the Commission. A brief examination of the British experience is sandwiched in between these chapters. The remainder of the book surveys the most significant forms of misrepresentation with which the Commission has been confronted; the position of underwriters and the problems of underwriting; and the responsibility of accountants under the Commission's rules and decisions. The material is well selected, and the presentation is clear; the treatment, in spots, is sketchy. The book also suffers from the effort to assess the relation of government and the investor without considering the pertinent legislation in its entirety.

The comparison of the Securities act and the English experience is serviceable. It shows how much further we have gone in our attempt to protect the investor. Perhaps our tardiness explains the difference. There is an interesting recital of some of the earlier and generally forgotten suggestions for reform in the financial world. Omission of the late Justice Brandeis's work

in this direction seems strange. The treatment of such topics as "beating the gun" in the sale of securities and private placement is realistic. The author seems to take no definite position with reference to the waiting period. He perceives the irony implicit in barring the small buyer—both institutional and individual—from investing in the many high-grade issues sold privately to large institutions in increasing volume. Dr. Cherrington, however, produces no evidence that this tendency has arisen solely out of the provisions of the Securities act. The litigation in connection with the liability of underwriters does not seem to justify the impression that the provisions of the law are unduly harsh.

The letter of deficiency requesting amendments in registration statements is a potent instrument of administrative policy. The Commission has discretion to decide whether or not amendments may postpone the effective date of the registration statement. Yet, as the author points out, in the absence of a formal dissent, it is not ordinarily possible without examination of amendments to individual statements to determine how the Commission has handled the particular deficiency problems (p. 139). He remarks: "A democratic society is in a potentially dangerous situation when the policies of an administrative agency which has far reaching power to regulate capital markets can be known only by those who are on the inside." No alternative is proposed. The suggestion is made that the Commission should go further in providing investigators with information, since they are confused by the prolixity of the usual prospectus. Dr. Cherrington thinks that investors inescapably tend to regard the registration of securities as evidence of the Commission's approval.

I must take issue with the conclusion that the flotation of new securites by small corporations has been severely handicapped by the costs growing out of the requirements of the Securities act. This is a hardy myth. The exemptions of small issues are duly described by the author (p. 108). The costs of flotations of relatively small issues shown in detail in the published studies of the Commission prove conclusively that by far the greatest item of expense is the underwriting fee, or selling commission. The costs of registration, including legal, accounting and engineering expenses, are small.

The book contains an index and a bibliography. Unfortunately, the recent hearings on amendments to the Securities act before the House Committee on Interstate and Foreign Commerce on H.R. 4344, etc., have added substantially to the data which could have been used. Nevertheless, this study will serve those who wish to consult a brief, general survey.

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New York

The Voting Trust: A Device for Corporate Control. By JOHN ANTON LEAVITT. (New York: Columbia Univ. Press. 1941. Pp. 216. $2.50.)

The amount of economic literature devoted to the voting trust has always been relatively limited. The appearance of Mr. Leavitt's book is therefore

welcome, although it does not pretend to be a treatise on the subject nor within its modest scope is the treatment free of certain shortcomings.

The primary concern of this study has been to examine the voting trust in relation to the locus and administration of control within the corporation. The voting trust is depicted as a device whose prime characteristic is the "fixing" of control in the hands of a specific group—a result which is achieved by an exchange of stock for trust certificates between stockholder and trustees, whereby the former relinquishes to the latter his right to vote. Sometimes this amounts only to perpetuating the control already exercised by a management group; on other occasions the control may actually pass from one group to another before it becomes crystallized. Aside from two brief chapters on history and legal status, the author has devoted his attention largely to exploring the nature of this device, the methods by which it transfers and fixes control, and some of the implications of its adoption.

In one chapter, for example, are described in unusual detail the provisions which have customarily comprised the voting trust agreement. Included are over twenty subjects, covering everything from the preamble down to the various methods by which a trust may be terminated. Another chapter is devoted to a consideration of the uses for the voting trust. A group found to occur most frequently are those associated with corporate reorganization, at which time prior creditors or bankers often insist upon the creation of a trust in order that they may be assured of the quality and stability of the management until the enterprise is thoroughly rehabilitated. Its applicability to new corporations and to public control of old ones (*e.g.*, to expedite the dissolution of a combination) is also considered. The positions of the trustee and of the security holder are accorded consideration in two additional chapters. On the one hand, the trustee is found seldom to be a heavy stockholder, frequently to represent banking groups, and to have interests not necessarily identical with those of the corporation. The stockholder, on the other hand, having forfeited his franchise, is no longer able to protect his interests against possible encroachment nor even to inform himself as to whether they are in jeopardy.

The voting trust is thereby demonstrated to be one more device for separating ownership and control of corporations and concentrating that control in relatively few hands. It not only offers no guarantee of sound management; it openly invites abuse. Accordingly, if its use is to continue, the author recommends a more careful regulatory policy, especially in the direction of securing a shorter life for the average trust, providing more publicity concerning trust activities, and reducing the immunity of the trustees.

Restricted though the scope of this study is admitted to be, it leaves much to be desired both in form and content. The general structure could have been considerably improved by the inclusion of a concise introduction, by the relegation of countless illustrative cases to footnotes or summary tables, and by more careful organization throughout. Among the more noticeable substantive shortcomings are a failure to give sufficient attention to the real estate trust and a tendency to provide categorical answers to many of the

issues raised when a further resort to facts seemed warranted. Nevertheless, this volume contributes some very worth-while exploratory and taxonomical spadework.

JAMES B. ECKERT

Washington, D.C.

The Securities Market and How It Works. By BIRL E. SHULTZ. (New York and London: Harper. 1942. Pp. ix, 433. $5.00.)

The Stock Market. By CHARLES AMOS DICE and WILFORD JOHN EITEMAN. 2nd ed. (New York and London: McGraw-Hill. 1941. Pp. xvi, 486. $4.00.)

The Securities Market and How It Works is an outgrowth of the course until recently given by the New York Stock Exchange Institute for employees of the Exchange. A more advanced text than its predecessor, *Stock Exchange Procedure*, the present volume is designed to cover the more "fundamental and technical" aspects of the securities market. It is especially addressed to those engaged in some phase of the securities business and their customers as well as providing a text for college classes. The editor and senior author was formerly director of the New York Stock Exchange Institute, the predecessor of the present New York Institute of Finance. As collaborators he had certain members of the institute staff and individuals connected with prominent brokerage houses.

Although there is no such formal division, the treatment falls logically into three parts. The first deals with the history and functions of the stock exchange, especially the New York Stock Exchange, history and procedure of listing securities, and types of securities and their flotation. The second division has to do with the procedure of trading in stocks and bonds on the floor of the Exchange, covering such items as the execution of orders, specialists, odd-lot trading, short-selling, etc. The third division treats of the procedure in the brokerage office in connection with customers' orders and accounts. It explains the mechanics of opening and handling of accounts, commissions and taxes, preparation and analysis of the customer's statement, margin regulations and practices, clearance and delivery of securities, etc., while also giving an introduction to financial statement analysis. A concluding chapter deals briefly with some current problems of the Exchange.

Every step in the complicated procedure of the security markets is explained in pointed detail and clarified by innumerable illustrations. One gains the conviction as he reads that here, for the first time, is available a thorough and authentic treatment of the technical business and procedure of the securities markets written from the inside. It deserves to succeed all previous books of a similar nature.

At the end of each chapter is found a list of questions and tests especially designed for candidates for employment or promotion within the sphere of the brokerage and exchange business. To many readers this volume will come as a revelation of things long desired but until now unobtainable.

The Stock Exchange is a second edition of the senior author's earlier work of the same name and follows in its chapter headings the plan of the first edition. One more chapter on "The Price of Stocks" is added.

The reader will welcome a more than doubling of charts and figures, while noting the omission of numerous tables found in the first edition and also a contraction of the Appendix on "Stock Market Terminology." Illustrative material has been brought down to date, which adds freshness to the treatment.

The volume, like the first edition, is written from the customer's point of view and deals not so much with technical procedure in the mechanism of the market as with the relationship of the customer to the market. Interest is maintained in security price movements as exemplified on the exchange. The analysis of causes, however, remains restricted as in the first edition.

In the final chapter (which is new) the traditional theory of the relationship of price to earnings is treated but too briefly and inadequately, as are also the principles of growth stocks and leverage. More valuable is the new material dealing with manipulation and the federal acts of 1933 and 1934 relating to securities and exchanges which has been included.

J. E. Kirshman

University of Nebraska

Public Control of Business; Public Administration; National Defense and War

The New Economic Warfare. By Antonin Basch. (New York: Columbia Univ. Press. 1941. Pp. xvi, 190. $1.75.)

This series of lectures delivered at Columbia University in the summer of 1941, is a broad and not very analytical discussion of war economics, totalitarian organization of economic affairs, and world politics. One chapter (the fourth) is devoted to the topic announced on the cover: economic warfare. The most valuable parts of the book are the descriptions of economic policies of nazi Germany and Great Britain. While the specific problems of the war economy are well seen, the fundamental economic changes of our time, which form the framework of the present experiments in war economics, do not find clear recognition, and little is done to give a meaning to the observed failures and successes.

In the first chapter, dealing with economic preparation for war, Dr. Basch limits the discussion to the preparations of nazi Germany and the explanation of their success. The economic causes of war receive a very superficial treatment. The author points to a list of maladjustments in international trade relationships before the present war; but he does not seem to see any logical connection between the spirit of the Versailles Treaty and the economic and political conflicts that developed. Given a longer lease on time,

Basch argues, the ideas of Versailles might have led to a workable world system; unfortunately, their execution was "handicapped by all the repercussions of the war" (p. 4).

This argument seems futile. If a political world system meets the problems of the time, it will scarcely need more than twenty years before it begins to manifest its power. The conditions created by the treaty favored the development of rivalries and new conflicts, and there is only too much agreement between its spirit and the futile attempts of the victorious powers to smother the explosive forces in the world while providing new fuel for them. Firmly anchored in the Treaty of Versailles were the policies to rebuild a powerful German capitalism while withholding from its masters a share in the ruling of the world, to erect a barrier of satellite states around Germany without providing for their prosperity, and to liberalize the colonial system without heeding the demands for industrialization and political independence of the colonial peoples. After these policies had developed their full effect and the great depression had disintegrated the leading nations, the nazi plan of world conquest and its early successes were a logical development. Dr. Basch limits himself to observing the outcome of this process. The absence of concerted opposition to nazi expansion, its temporary encouragement by "democratic" diplomacy, remain as unexplained as aggression itself.

Chapter 2 gives a summary of typical problems of the war economy. Dr. Basch stresses the impossibility of carrying on total war without drafts on civilian consumption and the nation's material wealth, and shows the limited usefulness of anti-depression policies in wartime, when the achievement of victory is the supreme goal. He sees no way in which the principles of private business can cope with the war situation: "All productive equipment, all industry, is to be treated as if it were one big enterprise governed from one place and by one set of principles" (p. 69), a condition which he sees already reached by Germany and Great Britain in the present war. Careful students of war economics will agree with these observations.

One minor point may be raised in connection with this chapter. Although the state assumes the rôle of a monopolistic supplier in certain fields, one wonders how "monopolistic price theory may be applied in determining optimum prices . . . under which the national economy would best meet the war requirements" (p. 49). Does Dr. Basch propose that the British government sell wheat to the people at prices that net a maximum profit to the treasury? Perhaps, the author has been thinking of monop*sony* rather than monopoly; rational monopsonistic policies may be very useful if applied by the procurement agencies of the military forces.

Chapter 3 gives an account of important features of the British and German war economies, and chapter 4 discusses economic warfare. Some important facts are clearly seen. Dr. Basch states that Germany's "economic position as a whole, even for a long war, was . . . stronger than in 1914" (p. 129). (This seems to refer to the end of 1940.) Systematic preparation and organization of available resources, military strategy determined by the principle of speedy successes over one enemy after the other, efficient exploitation of

conquered territories brought about this result. Although it is far from being a consumers' paradise, nazi Europe cannot be conquered by economic strangulation, useful as this method remains as a companion of military blows.

The author arrives at the conclusion that structurally the German and British war economies show a great deal of similarity. Both countries adopted anti-inflationary fiscal and price policies. The remaining differences between the two systems can be explained—to some extent—by the delay in the starting of the British war economy.

There are a few minor points in the discussion of the German war economy that may attract criticism. The rôle of price control in the German war economy seems somewhat exaggerated when described as "the most important item in the general policy and especially in war financing" (p. 74). Given the immediate control of industrial production by the state and the existing fiscal policy, price control appears of comparatively small importance. It might better be described as an auxiliary tool.

Although Dr. Basch recognizes the comprehensive economic control power of the nazi government, he expects trouble from the huge savings deposits that are accumulating in Germany. True, if the immense blocked purchasing power were suddenly released, it would upset the markets for consumption goods. But are there any reasons to suppose that it will be let loose during the war? And if the release takes place after the end of the war, is it so difficult to bring about a gradual transition? At present, at any rate, one can hardly agree with Dr. Basch that these savings indicate a serious weakness in Germany's noninflationary financial policy; they are one of its main pillars. It seems that the inflationary dangers inherent in the increase of the Reichsmark circulation are similarly overrated. If we are interested in finding real instead of imaginary weaknesses of Germany, we should turn to an analysis of transportation and other practical problems of the nazi war economy. Dr. Basch's book, unfortunately, does not give much help in this direction.

Chapter 5, "From War to Peace," is devoted to an examination of nazi plans for the post-war world and reflections about democratic peace plans. The problems of transition from war to peace are scarcely touched. The best part of this chapter is the matter of fact account of the nazi schemes and their partial realization in the occupied countries.

The criticism of the nazi scheme is extremely weak. It is said to be "materialistic," not to respect "basic human rights"; but there is little about the problem of its compatibility with the trends in the world economy. The juxtaposition of a "free world based on an international exchange of commodities and following fundamental economic principles . . . a world in which the principle of legality must be made to prevail again" does not add to the force of the criticism of the "New Order." What type of international society? What fundamental economic principles? Whose laws?

Dr. Basch does not choose to answer these questions, except by reference to an old political scheme and a very vague program. The old political scheme is the federation of the Danube countries, an idea once held dear by French

governments, some of the states of the Petite Entente, and cherished up to our days by the house of Hapsburg. This idea never seemed to satisfy all of the nations involved; it was discarded time and again in the twenty years following Versailles since it never found the powerful sponsor that could put it into practice and maintain it against the opposition. Moreover, this idea never provided a solution to the basic European problem, which is the problem of Germany. The same is true for the Oslo block which Dr. Basch seems to recommend for resuscitation. If the "United States of Europe" do not provide a solution, as Basch intimates, only a still larger block of united nations will. Regional sovereignties within Europe belong in the pre-airplane age.

Dr. Basch's economic program is neither new nor realistic. It aims at a marriage of state control and capitalism in which both spouses are expected to reign supreme. In the "negotiated free economy" that he proposes, the state is supposed to prevent unemployment while private enterprise governs the remainder or, as Dr. Basch says, the major part, of economic life. This looks like the old devil in new disguise. State interference designed to prevent unemployment effectively means state control of production and investment planning. Fiscal and monetary policy will do only as long as the government does not feel under an absolute mandate to do away with unemployment. Only if the state is willing to risk the recurrence of depressions, can it leave the planning of production with uncoördinated corporate and governmental agencies. Private capital does not flourish in the atmosphere of "limited" state interference where it is supposed to assume risks without holding the supreme command. The result of this form of arrangement is too fresh in people's memory to make the plan respectable: government hamstringing business, and business hamstringing government. How the two rivals that tend to paralyze each other in protracted struggle can be turned into an efficient team, Dr. Basch fails to show. He refers the problem to the democratic nations.

In some places it seems that Dr. Basch would be quite willing to give the state the first and last word in economic decisions; but in deference to a vague concept of "liberty" he holds back with an unequivocal statement. There are other instances, however, where the author seems satisfied with such weak arguments against government planning as the "absence of a code of values" or the failure of certain governments in economic tasks, governments that were unprepared, unwilling, or unauthorized to do the job.

HORST MENDERSHAUSEN

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Arms and the Aftermath. By PERRIN STRYKER (Boston: Houghton Mifflin. 1942. Pp. viii, 157. $1.75.)

The author, a former feature writer for *Fortune* magazine, attempts to cover, in breezy fashion, five topics: (1) industry's war record during 1917-1918, (2) technical information on mass production of war implements, (3) possible post-war results of plant expansions, (4) a report on the "various

1941 attitudes of manufacturers toward war business and their opinions about the future," and (5) suggestions as to "the intentions of the Government in a post-emergency world" (p. 20).

Stryker finds ample evidence in the experiences of World War I to demonstrate that construction, conversion, and operation of plants devoted to production of war goods divert resources from the civilian sector of the economy. In spite of this obvious lesson, he regards the present task of equipping for "defensive" war as a load to be superimposed upon industry's normal production schedules. There is, moreover, a tendency to identify industrial efficiency with the number of operations carried on under one roof. The difficulties involved in subcontracting are, accordingly, emphasized and the need for parceling out tasks belittled.

Regardless of the government's offer to buy specialized equipment required for war production, some business men, Stryker finds, spurn the risks of entering new and perhaps temporary lines of production. They do not want to manufacture war implements according to confusing specifications at a time when their usual wares can be sold through the regular channels of trade at prices bolstered by the rising volume of income paid out by adventurers who have taken war contracts. For these producers of war goods the author foretells a doleful future. To admonish his readers about the problems of post-war industrial adjustment, he summons the specter of stark, bleak and idle factories. Consequently, these "excess" plants will have to be sterilized in order to preserve the processes of "orderly" marketing. Business men, apparently, have not heard and do not act on Hansen's thesis[1] that the nation's entire productive resources and abilities can be employed to rebuild our capital equipment and to achieve a high level of real income for civilians.

The author's formulation of problems connected with the future relations of government and business appears garish to the extreme. He envisages a "post-emergency government" dominated by Isador Lubin and Leon Henderson, signers of the minority report submitted by the T.N.E.C. Another bogey on the horizon is government control in behalf of the consumer. "Federal concern for the consumer promises to be one of the major characteristics of the future New Deal. . . . For once the government takes the consumer under its wing; it will have to abandon its traditional role as the protector of the maker and seller" (p. 151). Stryker manifests little consciousness of responsibilities to rehabilitate a war-sick and poverty-ridden world. The only indication, indeed, comes by way of a suggestion that producers of peacetime goods at war's end are going to get an immense tactical advantage over their rivals in the scramble for markets. This time advantage, coupled with mercantilistic practices, may fix the industrial pattern and secure for decades the gains obtained through initial penetration of markets.

Considerable weight should be attached to this book as an expression of

[1] Alvin H. Hansen, *After the War—Full Employment* (Washington, 1942), No. 2 in the National Resources Planning Board series, *Post-War Planning*. Also A. H. Hansen and C. P. Kindleberger, "The Economic Tasks of the Post-War World," *Foreign Affairs*, vol. xx, Apr., 1942, p. 466.

the recent past thought of those who direct operations of an important sector of American industry. Stryker's report, together with the revelations of the Truman Committee, troubles those who are convinced that nothing less than a desperate production drive can supply in time the tools required for military victory. This is a book, then, to read for a point of view, and, like some other influential books extant today, not to be judged entirely by the consistency of its argument.

WILLIAM BRAY

Cornell University

Industrial Organization; Price and Production Policies; Business Methods

Hollywood: The Movie Colony, the Movie Makers. By LEO C. ROSTEN. (New York: Harcourt-Brace. 1941. Pp. x, 436. $4.00.)

Mr. Rosten, with the help of a large grant from the Carnegie Corporation and the Rockefeller Foundation and a staff of ten assistants, has given us a delightful and penetrating account of the social and professional life of the moving picture capital. During three years of investigation in Hollywood he gained a wide entrée. On the basis of this experience he gives a vivid picture of the work-patterns, customs, and attitudes of the more prominent groups in the industry. This volume describes the life of the movie colony and analyzes in detail the characteristics of the producers, directors, writers, and actors. A future volume is to include an economic analysis of the industry and a discussion of its labor relations. The present volume is a social anthropological study of Hollywood on the "Middletown" pattern, and I shall leave an evaluation of it as such to scientists in that field.

An interesting chapter on "Politics over Hollywood" includes a description of the depths to which the movie producers sank when they tarnished their silver screens with fabricated newsreels against Upton Sinclair during the California gubernatorial campaign in 1934. Had the chapter been written a few months later it would probably have contained an account of the ill-starred congressional investigation of alleged pro-war propaganda in movie plays and of the misuse of the newsreels to present far-fetched arguments against compulsory joint income-tax returns. If these cases had been included, the author might well have been led to conclude that the producers' abuse of their power to influence public opinions has been limited chiefly to issues directly affecting their personal financial interests.

Economic interest in the volume centers chiefly in the chapter on "The Big Money." Rosten gives the size and number of the big incomes. While disclaiming any intention of discussing the reasons for the high salaries, he appears to attribute them to the profitability of the industry and the box-office value of scarce talent. "Movie profits go to the elite—in Hollywood and New York—and not to the stockholders. . . . Management gets big money for itself and big money for the talent it employs" (p. 86). The economic justification for high salaries to able producers is supported by an analysis

of 39 pictures, indicating that "in well over half of the cases, the higher the salary of the producer, the higher the net profits to the studio from the pictures which that producer made" (p. 277). It is questionable whether this analysis is sufficiently conclusive to warrant publication. Another instance of extensive analysis of inadequate material is the dissection of the personal expenditures of sixteen individuals. On the whole, I think the author summarizes the spending habits best when he quotes Ken Murray: "Hollywood is the place where you spend more than you make, on things you don't need, to impress people you don't like" (p. 103).

The chief weakness of the book comes from a labored attempt to make it scientific, which, so far as an economist can judge, results rather in making it pseudo-scientific. Rosten has taken his measuring rod into every cranny of Hollywood, and cluttered some parts of his otherwise fascinating book with insignificant data. Appendix H gives, for example, a statistical analysis by sex, age and location of persons whose fan letters were received during one month by *one* actor and *one* actress. Postcards constituted just 66.8 per cent of this correspondence. What social scientist has been eagerly awaiting this source material? The general discussion of the content of the correspondence is much more illuminating.

Rosten deluged Hollywood with questionnaires. The answers enabled him to analyze statistically the producers, directors, writers, and actors with reference to their age, birthplace, education, experience, earnings, marital history, and professional attitudes. Those in each occupational group who replied to the questionnaire constitute the sample, which is checked for representativeness. But many persons included in the sample did not answer all the questions, and doubts arise that the returns for particular questions constitute representative samples. After reading Rosten's questionnaires one can only marvel that he received as many answers as he did.

The book is very well written, except for a few instances of carelessness. The number of movie theaters, for example, is variously given from different sources as 15,115 and 17,000. In giving data per person and per family, a ratio of 5 to the family is used in one case and 3.77 in another. And in the text it is stated that 47.4 per cent of 251 actors *finished* high school but did not attend college, whereas the data in the Appendix permit one to calculate that 26.89 per cent of the 47.4 per cent did not complete the four years.

This volume, in spite of occasional overdevelopment of quantitative measurement, does give a vivid and clever account of work and play in the movie capital. There are probably few other people that could have seen behind the façade of Hollywood as penetratingly as Rosten has done. It is to be hoped that he will complete his second volume, using the material he has gathered on the economics of the industry, as soon as he can be spared from his present position as Director of the Motion Picture Section of the Office of Facts and Figures. His characterization of the industry as geared to a mass market but unable to use the methods of mass production holds promise of some interesting analysis.

W. H. McPHERSON

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Marketing; Domestic Trade

Marketing. By FLOYD L. VAUGHAN. (New York: Farrar and Rinehart. 1942. Pp. xi, 639. $3.50.)

Yet another textbook in marketing! The need—if indeed there be a need—according to the author, Professor Vaughan of the University of Oklahoma, is for a treatment that emphasizes "principles rather than technique" and that proceeds primarily "from an economic rather than an acquistive point of view." Complaint about high marketing cost and consumer insistence upon more information about the quality of products bespeak the importance of the economic approach. This treatise aims to analyze from an economic point of view the reasons for the relatively high cost of marketing and to offer suggestions as to what may be done to increase market efficiency. The book meets this test to a reasonable degree. The author presents the usual features of marketing in an orthodox but adequate fashion and in the final chapters of the volume he gives sound explanations for higher cost of marketing than of manufacturing and advances recommendations for dealing with the situation in the light of accepted economic principles. Herein lies the chief merit of the book.

Like any freshly printed text in a field that is changing so rapidly as that of marketing, the book has the added merit of presenting the most recent advances in technique. Such developments as the super-market (pp. 225-227) and the agricultural legislation of 1936 and 1938, which seek to restrict the output of farm products in order to raise prices (p. 309), are well treated in the text. Another good feature is the questions and problems appended to each chapter for class discussion.

The book is divided into six parts. Part One gives the approach and discusses the psychology of human wants. The next six chapters (Part Two) describe the orthodox functions of marketing. Of the various approaches to the study of marketing the author pays his respects to the functional approach as "the most important" (p. 10). But subordinate to the functions at any given time, it is important to know "the psychological appeals, physical facilities, mediums, and practices in marketing." Accordingly, Part Three describes the mediums that perform these functions (private enterprises, coöperative associations, and the government); and Part Four treats of the practices which these mediums employ—salesmanship and advertising, credit, price policies, fair competition, merchandise turnover and stock control, and market research. The next five chapters (Part Five) present methods of marketing different classes of products and contrasts the methods of handling production goods (farm products, extracted products, and manufactured goods) and consumption goods (convenience goods and shopping lines). Part Six contains an appraisal of the marketing system primarily from the standpoint of cost, giving reasons for the increase in marketing cost and offering recommendations.

The final chapters of the book are by far the most significant. Herein the author sets forth three general explanations of the increase in the cost of

marketing. One is the fact that marketing is subject to the economic principle of decreasing cost to a much lesser extent than is manufacturing. A second reason is higher transportation costs for longer hauls between producer and consumer, added sales efforts, and other increases in marketing functions. A third explanation consists of monopoly, unfair competition, and additional margin-widening acquisitive practices. The recommendations follow in terms of these factors—flexible freight rates, decrease or improvement in the functions of marketing, less advertising—and these deserve a firm nod of approval.

J. S. ROBINSON

Carleton College

Transportation; Communication; Public Utilities

Essays in Transportation in Honour of W. T. Jackman. By H. A. INNIS, editor. (Toronto: Univ. of Toronto Press. 1941. Pp. viii, 165. $2.50.)

This small volume, which carries a foreword by the Reverend H. J. Cody, president of the University of Toronto, and an introduction by Professor Alexander Brady, is made up of lectures presented in honor of Professor Jackman upon his recent retirement after completing a quarter-century of service at Toronto. For the most part the contributors are his former students and present or former colleagues. An exception is Professor C. Lloyd Wilson of the Wharton School who, on behalf of fellow workers in transportation south of the border, pays warm tribute to Professor Jackman for his noteworthy contributions both to scholarship and to student training in the field. The essays or lectures differ considerably in extent and in the level of interest and professional insight they envisage. Some, and possibly all, are worth the attention of specialists in the particular fields.

Professor G. P. deT. Glazebrook of the department of history of the University of Toronto deals with "Nationalism and Internationalism on Canadian Waterways" and discusses the contributions and limitations of water transportation as a basis for political unity in Canada and the bearing of the Canadian waterways on the relations of Canada and the United States. "Is it too fanciful," he concludes, "to imagine that what an historian has aptly called 'the commercial empire of the St. Lawrence,' based on economic and national motives, may be transformed into a political empire of the St. Lawrence, child of its generation, jointly cherished by the Republic and the Dominion?" (P. 16.) Professor Herbert E. Dougall of Northwestern University, in "Some Comparisons in Canadian and American Railway Finance," finds that the railroad problems of the two countries, formerly quite different, now reach common ground in the obstacles to financial health that beset both systems. But the countries have differed in their response, in that American losses have fallen mainly on security owners while those in Canada

have largely been assumed by the state. After an extensive factual examination of the "Principal International and Interterritorial Class-rate Structures of North America," Mr. Frank L. Barton, chief of the economics section of the Tennessee Valley Authority, concludes that "the levels of class rates applying to Official Territory from Southern, Southwestern, and Western Trunk-Line Territories, and Eastern Canada are apparently made with no relation to density of traffic or costs of railroad operation within the territories from which the class rates apply" (p. 55). Professor Wilson, in his survey of "Some Basic Problems in the Public Regulation of Transportation," provides a concise summary of the perennial and the more recently emphasized problems and stresses their importance.

The factors making for high cost of movement of farm products in Canada are explored by Professor W. M. Drummond of the Ontario Agricultural College in an essay on "Transportation and Canadian Agriculture," and some suggestions are made for reducing the cost. In the lengthiest of the discussions Mr. Norman D. Wilson, an engineer, in treating "Some Problems of Urban Transportation," sets forth the difficulties of providing city transport facilities in the motor era and surveys the experience of a number of Canadian cities. The bearing upon policy of the presence of municipal ownership and the trend toward "free wheel transit," by busses and trolley-busses, are stressed.

Mr. W. G. Scott's essay, "An Aspect of the British Railways Act, 1921," follows a broader plan than the title may suggest. Discussing the disappointing operation of the standard-revenue provision of the 1921 law, the counterpart of the 1920 "rule of rate making" in this country, he paints such a picture of the use of transport control to throttle the railways' competitors as should horrify those American students who now voice alarm over the straightjacketing tendencies of American regulation. It would appear that consumer-protection has largely disappeared from the British system of control. Mr. Scott believes that the end of protecting railroad investors could better have been achieved through outright subsidy, but he does not declare himself as to the worthiness of the end itself.

The final essay, on "Recent Developments in Balance of International Payments Statistics," by Mr. Herbert Marshall of the Bureau of Statistics of the Dominion Government, departs from the transportation theme but deals with the not unrelated matter of the recent progress made in Canada in determining the volume of foreign trade movements and tourist expenditures. The revised estimate gives Canada a credit from tourists of 78 million dollars in 1939 instead of the 166 millions previously announced.

Four closely packed pages are required to list the publications of Professor Jackman. Best known among them are his two-volume treatise on *The Development of Transportation in Modern England* and his *Economics of Transportation* and *Economic Principles of Transportation,* which reflect his Canadian setting.

Shorey Peterson

University of Michigan

Air Transportation. By CLAUDE E. PUFFER. (Philadelphia: Blakiston. 1941. Pp. xxiv, 675. $3.75.)

Air Mail Payment and the Government. By FRANCIS A. SPENCER. (Washington: Brookings Instit. 1941. Pp. xii, 402. $3.00.)

Air Transportation in the United States: Its Growth as a Business. By HUGH KNOWLTON. (Chicago: Univ. of Chicago Press. 1941. Pp. vii, 72. $1.25.)

The first two of these books are works of substantial scholarship. The third is a sketchy little book by an investment banker who is a member of the board of directors of Eastern Air Lines. It contains some information of interest on factors influencing the growth of air transportation, but one is forced to wonder how it happened to be published "through aid of a special fund for geographic study and research."

The books by Puffer and Spencer respectively were both completed in the summer of 1941, and appeared almost simultaneously. They cover much of the same ground, but with completely different types of approach. Puffer discusses all phases of current federal law and administration relating to scheduled air transportation. Spencer limits his scope, not too rigorously, to the place of air mail payments in the development of air transportation.

Puffer's book seems destined to convey an unfavorable first reaction to many readers. It has a formidable 16-page table of contents and an introductory chapter which is exceedingly dull. As one ploughs through the book, however, the amount of sheer labor which went into it can hardly fail to inspire some respect.

The most valuable part of the book is probably the lengthy chapter which presents the accumulated experience in the issuance of certificates of public convenience and necessity for new air carriers. Partly because of the subsidized character of the industry, the pressure for certificates has been great, and there have been complex special problems. At present, expansion of route mileage has been brought to a halt because of the war, but there is every reason to expect rapid expansion in the post-war period. The precedents so far established in connection with certificates for new services may then become of considerable importance.

Other major chapters deal with rate making for air mail service and for transportation of persons and property. The discussion of air mail rate making has both the advantages and disadvantages of an intensive analysis of the printed decisions. It collates the precedents, but does not penetrate very far behind the mask of officialdom. Other chapters deal with the economic and legal characteristics of the industry, the regulatory agency, and the regulatory activities concerned with accounting, corporate relationships, labor relations, and safety.

The treatment of decreasing costs is careful and elaborate, but there is almost no discussion of technological progress in the industry and its economic implications. This is a strange omission in a book on air transportation. At pages 302, 367, and 386, conclusions about rate-making policy, subsidy payments, and industry profitability in the future are postulated upon the ex-

pectation that costs will continue to decline merely because the industry is one of decreasing costs in the static sense.

As a critical study, the book is lacking in impact. Significant appraisals of current practice are included, but tend to become lost in a wilderness of detail. For most readers the book would have been greatly improved by a rigorous condensation. Certainly no undergraduate should be compelled to read it in its entirety as a textbook.

On the other hand, the mature student who has a specialized interest in almost any phase of the economics of air transportation will find the book very useful. Everything relating to current regulatory practice seems to be there, conscientiously compiled, well arranged, and carefully indexed.

Spencer's book, as previously noted, is concerned primarily with the issues connected with air mail payments. Since most of the public controversy so far in the air transportation field has been related to the mail payments, they provide a convenient organizing theme. The main structure of the book is chronological.

After an introductory chapter, Spencer covers the development up to 1934, reworking the ground covered by the present writer in *The Economics of Air Mail Transportation,* but with a fresh look at the source material. He then deals somewhat noncommittally with the cancellation of the air mail contracts and reports subsequent developments during the period of Army operation.

About half of the book, seven chapters, is devoted to the Air Mail act of 1934 and its administration by the Interstate Commerce Commission. "A review of those chapters," as Spencer says (p. 225), "indicates that the Air Mail act of 1934 contained statutory defects and that its administration by the ICC was not altogether satisfactory." This is an understatement. In particular, parts of chapter XII deserve a place in any collection of examples of administrative ineptitude in the field of public regulation.

The three chapters on the Civil Aeronautics Authority and Board afford an interesting sequel. The record indicates that, while before 1938 an old experienced agency was doing a new job badly with its left hand, after 1938 a new agency which was willing to give the most concentrated attention found itself trapped at first by its own inexperience.

Throughout the whole period since the cancellation episode in 1934, the type of regulatory action needed by the industry has been constantly changing. The administrative activities actually attempted, moreover, have been largely on a trial and error basis. In the background, not too well concealed, there have been the numerous feuds and animosities carried over from the cancellation fight.

Spencer's book has the great merit that it deals realistically with the problems which have actually been uppermost in the minds of the officials of the regulatory agency, air transport executives, and members of Congress. His is not a book written in a library about a distant governmental activity. Despite a considerable amount of tactful phrasing, he manages to convey

in pointed fashion the results of much penetrating observation.

The economic analysis is competent and sufficiently extended for the purposes in hand, but the book is as much a study in public administration as in economics. Because of its success in dealing with an area where economic and administrative issues can never be entirely disentangled, it is a significant contribution to a better understanding of how government functions in the field of economic regulation.

PAUL T. DAVID

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Economic Geography; Regional Planning; Urban Land; Housing

Economic Geography of the United States. By BERNHARD OSTROLENK. (Chicago: Richard D. Irwin. 1941. Pp. xvi, 804. $4.00.)

Professor Ostrolenk begins his book with an apology: "Economic geography, like history, needs to be constantly reinterpreted, reëvaluated and rewritten in the light of new technological developments." Indeed, there are many elementary textbooks in economic geography. One should think that there are innumerable tasks more worthy of the talent and effort of a professor of economics than adding another to the stock. Mr. Ostrolenk redeems himself by introducing new types of evidence and new viewpoints into the field of economic geography texts.

His plan is excellent. He starts from the proposition that the appraisal of resources, the significance of their geographic distribution, and their contribution to human welfare are constantly in flux, are currently affected by changes in technology, demand patterns, institutions and public policy. Hence, economic geography should be discussed in terms of just these changes, instead of merely describing how much of what is where.

Dealing with coal resources, for instance, he discusses the painful agonies of a competitive and poorly organized industry faced with a declining demand for its product and the emergence of a powerful labor union, and tells of the rescue attempts by the government. In connection with the iron and steel industry, he explains—too sketchily but with laudable intentions—the workings and effects of the basing point price system and price leadership. Agriculture is shown reeling from the blows of trade barriers and losses at export markets, and a brief survey of the major public policies designed to cushion the shock and to help farmers to adjust their production to the new demand situation is presented.

On the whole, the selection of factual materials in tables, charts and maps is made judiciously according to their relevance to these dynamic aspects. Hardly a figure or map is shown which does not have a significant place in the analysis or argument developed in the text. The unceasing attempt of the author to give meaning to facts and to select them from an amorphous pile, according to their relevance to major issues of economic and social

welfare, renders his book outstanding among its none too exciting companions.

The deliberate and systematic focus upon social welfare and living standards places the geographic location of resources in a position coördinate with the various technological, economic and institutional factors determining the conditions under which the resources are utilized by people. Abundance of natural resources in itself does not make people rich. The author stresses, by means of many concrete examples, the growth of public policies designed to facilitate people's efforts to adjust resource uses to changing production techniques and demand patterns in such a way that general welfare and living standards be increased. Similarly, he points to other public policies which are hampering such adjustments. The arguments regarding these problems are presented cogently and without dogmatism.

So much for the merits of the book. Its main deficiency lies in the lack of conciseness with which this constructive approach is carried through into the details of the various sections. Frequent references are made to the fact that whenever "pecuniary costs" and "true costs" fail to coincide, economic and social maladjustments are bound to arise. Yet no satisfactory definitions of these two concepts of cost are given. In the chapter on Conservation, for example, we find this statement: "To say that it does not pay to conserve soil, or to reforest waste land, or promote health, or educate and train young people is merely an evidence of improper application of the pecuniary system. Conservation of resources frequently demands that pecuniary accounting be ignored, that values be measured in other than pecuniary terms" (p. 775). In the first place, it is poor logic to throw soil conservation or reforestation in the same category with health and education; and, secondly, we are entitled to know what value measures beside pecuniary ones the author is contemplating.

Another example: in the chapter on transportation, 20 pages are devoted to a simple listing of various railroad lines, without any reference to traffic loads or other economic-geographic factors; while the economic-geographic railroad problem par excellence, the making of freight rate schedules and their effect upon regional specialization, receives 7½ lines merely stating that there is such a problem.

Finally, I deplore the author's aversion to introducing analytical concepts and simplified models of functional relationships between crucial factors as aids for understanding the processes governing the location of industries and regional specialization. An elementary knowledge of the principles of proportionality of factors, of comparative advantage, of maximizing social product values, etc., is indispensable to students in their endeavor to gain insight into the dynamic aspects of economic geography.

The book is divided into five parts: Geography, Power, Metals and Minerals, Agricultural Resources, and Movement and Conservation. A very informative chapter on "New Resources and New Industries" is contributed by Professor John F. Bell, and two chapters on "Tobacco and Sugar" by Professor J. J. Gottsegen. The discussion of each of the major resources begins with a brief comparison of America's productive capacity with that

of other countries, giving perspective to America's position relative to the world as a whole. Recent technological changes, changes in demand, and relevant public policies are traced for each major industry in their effects upon geographic location, intensity of resource utilization, and living conditions of the people employed in that industry. The structure of ownership and control and the industrial policies and practices regarding output, marketing and pricing are sketched for the various industries, with varying degrees of lucidity. The review questions at the end of each chapter are skillfully designed to stimulate thinking on the part of the student.

Among the texts in economic geography dealing primarily with the United States which have come to my attention Professor Ostrolenk's book is by far the most thought-provoking and deserves a prominent place in its field.

RAINER SCHICKELE

Iowa State College

Southern Industry and Regional Development. By HARRIET L. HERRING. (Chapel Hill: Univ. of North Carolina Press. 1940. Pp. xiv, 103. $1.00.)

To secure that needed balance between agriculture and manufacturing in southern states, certain general principles and factual data are needed. To use the words of the author of this timely and enlightening book on the industrial growth of the South: "This story proposes one such unifying principle which may be useful to planners: an application to the manufacturing industry of Professor Howard W. Odum's principle of optimum production. It supplies some simple—it is hoped not oversimplified—indices that may be useful to agencies trying to encourage manufacturing."

This book emphasizes first the fact that the South is a definite part of the nation and the welfare of the nation is affected by the welfare of this part; second, that the South, to be at its best, needs the development of all its people and capacities.

The material is divided into six chapters, dealing first with an optimum manufacturing economy for the Southeast. It then logically goes into a discussion of manufacturing for the nation, manufacturing for the region, manufacturing for regional balance, optimum production and opportunity, and finally, a statistical picture of the entire situation. A well-planned Index simplifies the finding of particular data. Numerous charts and graphs, found throughout the book, add to the effectiveness of the information presented.

In bringing to the front the problems that confront and impede the development of manufacturing in the South, and for presenting clearly the opportunities for future development, Miss Herring's book is a valuable document.

SYLVIA KANTOR

Athens, Georgia

Labor and Industrial Relations

The Kansas Industrial Court, an Experiment in Compulsory Arbitration. By DOMENICO GAGLIARDO. Univ. of Kansas pub., soc. sci. stud. (Lawrence: Univ. of Kansas Press. 1941. Pp. viii, 264.)

As the reader of Professor Gagliardo's excellent little book on the Kansas Industrial Court proceeds through its pages he is likely to be increasingly impressed by certain similarities between the history of the court and the Paul Bunyan yarn concerning logging operations on the Pyramid Forty. This tract was so high "it took a man a week to see the top, or seven men could do it in a day if they all looked together." Among the animals that lived there was the Pinnacle Grouse. It "had only one wing—and that was a big one. . . . With one wing big that way she could fly round and round in little circles or big circles, which ever she liked, but of course, anyone might know, she never could go straight ahead—not the way she was built."[1]

After noting that "strikes again present a serious problem and once more restrictive legislation is being called for," the author states that his study is designed "to point out the successes and failures of compulsory arbitration in Kansas, . . . to serve as a warning to those who place their hopes in panaceas; and to explore the limits within which compulsion in the settlement of labor disputes may properly be applied in a democracy" (p. v). In carrying out these purposes he made extensive use of legislative debates, court decisions, contemporary newspaper accounts, official correspondence, and unpublished manuscripts; moreover, he secured the personal help of individuals who had taken an active part in the controversies that raged around the court. As a result his readers will be able to "see the top" in much less than a week. The first chapter sketches the political and economic background, both national and local, of the law creating the court. Here as elsewhere Professor Gagliardo pulls no punches. He quotes President Wilson's castigation of mob violence as "that 'disgraceful evil' which added 'to German lies about the United States, what her most gifted liars' could not 'improve upon by way of calumny' " (p. 3); and states that the "national hysteria was reflected in Kansas" (p. 13). With reference to a passage in ch. 74 of the Laws of 1920 of Kansas he declares that, "The severity of this indictment and its palpable falsity are eloquent evidence that, in judging our foreign born and native born of foreign parentage, reason had completely abdicated and rank prejudice reigned supreme" (p. 15).

The fact that the court was built so that it would "fly round and round in little circles or big circles" is revealed in the circumstances, among others, that "No special qualifications were required for those serving as judges" (pp. 42, 201); and that its presiding judge could claim that "We had no precedent to guide us." As the author points out there were precedents from the Australian Commonwealth Arbitration Court, "and the fact that they were not used or even referred to indicates how narrow was the basis of knowledge and experience upon which the court was built and conducted" (p. 235). The

[1] *Cf.* Esther Shephard, *Paul Bunyan*, pp. 23-32.

evidence that the Kansas body did fly around in circles is scattered through this book; one of the best of Professor Gagliardo's comments on its procedure appears on pages 78-79.

In at least one respect, however, it must be admitted that the author's testimony indicates that the Kansas grouse flew straight. Concerning the packing house workers' walk-out of 1921-22, he writes that the court "merely exerted all of its influence to break the strike, offering as an excuse a new interpretation of its jurisdiction. Its effectiveness was in the field of strike-breaking and not in that of adjudication" (pp. 159-60).

In the final chapter he both generalizes and qualifies this criticism: "It is fair to say that the Industrial Court Law was regarded by its makers as a strike-breaking device of the first order, although it must be added that they also believed it made strikes unnecessary and therefore unjustifiable" (p. 233). Connected with these observations is the author's conclusion that, though unions were specifically recognized in the law and collective bargaining authorized, "the fundamental purpose of the act was to reduce unions to a state of impotency . . ." (p. 239). Numerous passages show, however, that he recognizes the relation between this attitude and the type of union leadership represented by Alexander Howat of the coal miners.

Like much legislation of recent years, the Kansas Industrial Court act provided that if any section or provision of it should be declared unconstitutional, the remainder was not to be affected. As is generally known, the U. S. Supreme Court in early 1923 held it contrary to the Constitution for the state to regulate wages in the meat-packing industry, "at least under any but the most extraordinary circumstances," and subsequently "denied the state's right to regulate hours and overtime rates by a system of compulsory arbitration" (p. 245). These decisions, the changes in the relation of the court to the Public Utilities Commission, the abolition of the court, and other events described in detail by Professor Gagliardo finally reduced the original statute to a condition approximating that of another of Paul Bunyan's animals, the Ring-tailed Bavalorous, which after tangling with the Blue Ox, had little left but the ringed tail. In spite of this it remains true that "much more" of the law "has been left intact than is generally supposed" (p. 247).

The author's treatment of his third objective—an exploration of the "limits within which compulsion in the settlement of labor disputes may properly be applied in a democracy"—deserves more space than can be found in a review of reasonable length. Because of the affinity of some of his distinctions and arguments to those presented by the Webbs nearly fifty years ago in *Industrial Democracy*, it is surprising to find no mention of that classic work.

CHARLES A. GULICK, JR.

University of California

Ideologies and American Labor. By PAUL K. CROSSER. (New York: Oxford Univ. Press. 1941. Pp. xvi, 221. $2.50.)

There are two ways of developing labor theory. The one starts with an all-embracing glance at Western history, discovers that it is like a body of water

in a lock canal, proceeds to formulate the qualitative uniqueness of each section of the "canal," especially its "ideology," and then appraises the concrete labor action of our own time by the closeness with which it is guided by the ideology appropriate for the time. This is the way of the author of this book.

The other way is to study labor action from the standpoint of the labor organizations endeavoring to establish themselves in their social environment and, at the same time, to mold that environment by building new institutions, such as industrial government, in accord with labor's "home-grown" ideology. Such an unselfconscious ideology is quite different from an ideology in the grand manner as viewed from a lofty height, but it has the merit of springing from the soil and of being understood by Tom, Dick, and Harry.

The author is a Marxist, but in his thinking and manner of exposition his basic Marxism has passed through the bluing process of the latter-day German sociology. Hence, on the one hand, the airtight compartmentalizing of Western history into the town artisan period, the capitalist period, and the proletarian period; and, on the other hand, his formulation of three corresponding "ideologies": the "harmony in the estate," the "balance in marketing," and the "struggle among classes." These ideologies formulated with a truly astounding erudition in Part I are correlated in Part II with three types of American labor relations: paternalistic unionism, liberalistic unionism, and revolutionary unionism. Under the first, he groups the movements prior to the American Federation of Labor as well as the welfare-ism of Henry Ford; under the second, nearly all the subsequent unionism; under the third, the class struggle unionism from DeLeon to Foster. He has to admit serious ideological hangovers, for how else can one account for the ideological oneness of the CIO and the AFL, both of which remain stuck in the liberalistic bargaining phase? But he is supremely confident that, in the future, American labor's ideology will distinctly show that it belongs to the part of the canal past the capitalistic lock.

The reviewer has nothing but admiration for the author's wide reading and dialectical skill. However, he prefers the other interpretation of American unionism which sees it develop first the "pure and simple" type when the sovereignty of American government was confronted with the stronger sovereignty of American business and now, under our very eyes, reinterpreting its basic "job conscious" ideology by raising its sights to take in the political hinterland of the job. This it does because, in our own day, government has moved into the centre of the arena not only as the regulator, but also as the creator of job opportunities. In this fashion, American labor is moving along both materially and ideologically, but with the enormous advantage that it is avoiding the danger of a flank left hanging in the air, resulting from an ideological breach with the bulk of the middle classes still devoted to the liberalistic "balance in marketing," albeit with such amendments as the A.A.A. and the like.

SELIG PERLMAN

University of Wisconsin

Stars and Strikes: Unionization of Hollywood. By MURRAY ROSS. (New York: Columbia Univ. Press. 1941. Pp. x, 233. $2.75.)

The movie industry is no less glamorous than its stars. Since it is widely publicized and since its product is highly personalized, popular interest centers in it more than in any other industry. The special characteristics of the industry are reflected in its collective bargaining techniques. The variety of its employees results in an unusual diversity of labor relations problems. For all these reasons it is fortunate that this history of the organization of the employees engaged in producing motion pictures has been added to the growing list of special industry studies in the labor field.

Here is a centralized, large-scale industry making an unstandardized product. The production of each movie is largely a separate enterprise, with many employees necessarily hired on an individual contract basis. Employment for a majority of the workers is peculiarly irregular. Salary rates defy standardization, and bear little relationship to annual earnings. Employee demands have included such unusual points as a minimum duration for layoffs and the allocation of screen credits to writers. The industry has become thoroughly organized although no major strike has ever been won by the instigating union.

Dr. Ross's main title, of course, gives little indication of the scope of his book. The volume deals not only with stars but also with other screen actors, extras, writers, and craftsmen and, in passing, with directors, musicians, technicians, and office workers. It has much less to say about strikes than about the ebb and flow and interrelationships of numerous labor organizations; for there have been very few strikes in the movies as compared with other recently organized industries.

One of the peculiarities of the industry is the unusual degree of uniformity in management labor policy. The first major attempt at unionization in 1916 led the companies to form the Motion Picture Producers' Association, which, with its successors, has been the medium for achieving this unification.

Dr. Ross places merited emphasis on the bargaining machinery established in 1926 by the Studio Basic Agreement, covering the stagehands, carpenters, electricians, painters, and musicians. This agreement places all negotiation in the hands of a joint committee, whose employee representatives are the presidents of the five national and international unions. The author explains why this restriction upon the functions of the local unions and their officials has checked strikes, but a more extensive analysis of its relation to the development of dictatorship in some of the unions would have been appropriate. Special attention is devoted to the "Alliance" as the dominant union in the group. The Alliance, representing the stagehands and several smaller technical groups in the studios and the projection machine operators in the theaters, was greatly weakened in 1933 by the loss of its strike to obtain recognition for the sound men; but when its new president, George E. Browne, in 1935 demonstrated his ability to shut down movie theaters, the producers were induced to grant his closed-shop demands. "By this single stroke, Browne compelled some twelve thousand reluctant workers to join his union at a time when he had no more than a hundred members on all the studio lots" (p. 192).

It was then that the Alliance locals were subjected to the dictatorial control of Browne and his notorious William Bioff.

Special attention is inevitably given to the Academy of Motion Picture Arts and Sciences, whose creation in 1927 retarded the unionization of Hollywood's talent groups. Through 1935 the Academy consistently obtained more concessions for the actors and writers than they were able to gain through other channels. Control of the Academy and its five branches (for producers, directors, writers, actors, and technicians) was vested in a select few. "There was little exaggeration in Equity's claim that the producers controlled the destiny of the Academy. . . . The founding of the Academy was a master stroke of producer ingenuity; its successful operation resulted from actor acquiescence in its policies" (pp. 41, 42). But after 1933 many of its members became increasingly distrustful, and formed their separate guilds.

The detailed account of the lengthy negotiations during the N.R.A. period and the description of the rise of the Screen Actors' Guild and the Screen Writers' Guild to the status of contracting agents complete the main themes of the story. Considerable space is fortunately given to an analysis of the position of the extras (whose average annual earnings in 1940 were $361.03) and an explanation of the steps that have been taken to improve their lot.

There are some indications that Dr. Ross judges the success of labor relations largely on the basis of the absence of strikes. He uses this standard in commending the undemocratic negotiation machinery established by the Studio Basic Agreement (p. 15). He praises the Academy for its considerable peaceful accomplishments. "The Academy was for years an outstanding example of a successful industry-wide employee representation plan," and its formation was "one of the most original contributions to industrial relations in America" (pp. 214-15). And again, he appears to criticize the Wagner act when he says that it "was meant to reduce industrial strife by guaranteeing collective bargaining. Under its aegis the studios have known scarcely a single quiet day" (p. 191).

Dr. Ross has filled his book with interesting material that is not elsewhere readily available. He has made an extensive study of the documents and records on his subject. His use of field work and personal interview appears, however, to have been much more restricted. The attitudes and emotions of the employees are to some extent illuminated by the discussions of their various grievances; but there is no "close-up" of the producers, and we are given but a slight basis for judging their actions, policies, and motives. In fact the book as a whole gives the general impression that the chief struggle involved in the unionization of the industry was between rival unions rather than between the unions and management.

Since the book covers a variety of separately organized employee groups, the question of arrangement of material is extremely difficult; but this problem could have been met more successfully. If a more continuous treatment had been given to the experience of the craftsmen, the extras, and the actors and writers, the reader would have much less of a task in piecing together the many broken threads of the narrative.

I wish that Dr. Ross's volume might have been somewhat more extensive.

Further detail and explanation would be welcome at many points. More thorough evaluation should be possible without marring the objectivity of the treatment. The author himself raises several questions that he realizes are only partially answered. An introductory chapter on the peculiarities of the industry that influence its labor relations would help to orient the reader, though these characteristics gradually come to light as the account progresses.

In view of the movie industry's popular appeal and the great range of its labor problems, this volume is assured a wide reading by those interested in industrial relations. Illustrations drawn from its pages can probably be guaranteed to keep any labor class at attention.

W. H. McPherson

Oberlin College

Wartime Developments in Government-Employer-Worker Collaboration. (Montreal: Internat. Labour Office. 1941. Pp. 163. $1.00.)

This publication is a supplement to *Methods of Collaboration between the Public Authorities, Workers' Organizations and Employers' Organizations* which was prepared and published as a report to the International Labour Conference originally scheduled to be held in June, 1940, at Geneva. Though the book is a supplement, it contains an independent report on the development of collaboration between government, employers' and workers' organizations during the period of the present war. It covers intensively the developments in Great Britain and the United States, and, more briefly, those in Australia, Canada, India, New Zealand and the Union of South Africa. A chapter on Continental Europe describes how the German system of forced labor organizations has been expanded into the conquered and occupied countries, with Sweden and Switzerland as exceptions.

Among the democratic nations England obviously has gone farthest in the voluntary collaboration between trade unions, employer organizations and the government. Tripartite advisory and administrative boards have been formed centrally, by districts, and locally; and their activities have been extended from wage negotiation and arbitration, and prevention of strikes to price, supply, man power and efficiency problems. Collaboration also is extended to questions of draft and deferment, of industrial training and dilution of industrial skills and to seamen's and factory workers' welfare. Some industries have set up special production and employment boards. Finally the trade unions are coöperating in the discussion of post-war reconstruction. Development in the other Empire countries have followed the English example to a large extent.

For the United States of America, it is stressed that the war effort is directed not so much by the existing government departments as by specially created war boards, and that the collaboration has chiefly been carried on by appointing outstanding employer and trade union men to government boards. They join the boards as leading individuals, not as representatives of their respective organizations. The review of developments in the United States,

therefore, is chiefly a description of the forming, reforming, and duties of the different government war boards. The actual collaboration of the employers and the trade unions has been somewhat overlooked.

For the German-held countries, the existence of collaboration is denied, as collaboration is defined as voluntary coöperation, presupposing free and independent organizations of labor and management. This does not dispute the fact that the German government uses the "Labor Front" extensively to whip labor into line.

The advantage of the publication is that it renders a broad international review of developments in the relations between government, labor, and management, and of the new war agencies. Lacking is a critical evaluation of these developments. Collaboration, for instance, means not only increasing influence of the unions in government but also the opposite. There is the further question of efficiency. How do the many boards affect the speed of industrial conversion and efficiency in the new war industries? Is union influence in management really compatible with speed-ups which, after all, might be necessary? Nevertheless, the book reports on deep reaching transformations, especially in the British labor-government-management set-up, for which it deserves our full attention.

ALFRED KÄHLER

New York

Social Insurance; Relief; Pensions; Public Welfare

Swedish Unemployment Policy—1914 to 1940. By HARRISON CLARK. Introduction by SUMNER H. SLICHTER. (Washington: Am. Council on Public Affairs. 1941. Pp. 179. Cloth, $3.25; paper, $2.75.)

This book contains a very good summary of Swedish policies for relieving and reducing unemployment during World War I, during the post-war depression following 1920, and during the period of moderate depression and remarkable recovery from 1930 through 1940. The unemployment programs of both the Conservative and Social Democratic governments in the 1920's and 1930's are explained with abundant statistical material and references. The disadvantages of work relief, the advantages of an expansionist program to combat depressions, and Sweden's wartime labor policy are well explained.

General summaries are, of course, open to specific criticisms. Perhaps the author should have been somewhat more critical of the conclusions of others. This seems to be true in the case of the alleged causes of an increase of "permanent unemployment" in Sweden in the 1920's (pp. 60-62), which neglects both monetary and Keynesian analysis, and it seems to be true also of statements regarding the "international margin" (pp. 132-34, 152) to the effect that an easy-money program in 1932 and 1933 was not possible until the central bank had acquired a sufficient reserve of foreign exchange. In fact, an easy-money program with a decline in the exchange value of the krona

would have helped, and did help to a degree, to build up Sweden's foreign exchange reserve by checking imports, by stimulating exports, and by encouraging home rather than foreign investment. The statement (p. 131) that domestic monetary control following the abandonment of gold in 1931 "failed to stimulate industrial production" also could be challenged.

Although in an introduction Professor Sumner Slichter emphasizes cost-price relationships and wage cuts in building, the Social Democratic government actually followed a Keynesian policy—indeed, the reports of the Unemployment Commission in 1934 and 1935 foreshadowed much of Keynes's *General Theory*—and, as Dr. Clark points out, it was the absence of general wage cuts along with government subsidies, government diversion of income from savers to consumers, government aid in reducing interest rates, and migration to the cities that helped to stimulate investment, housing, and employment (pp. 157-59).

Wartime controls to permit rationing of labor and economic planning in the labor market have been much more complete in Sweden than in this country. As early as 1940 Swedish employers were required by law to hire through public labor exchanges; public funds were appropriated for transporting workers and their families to important work; legislation regarding night work for women, maximum hours, and vacations had in some instances been suspended; and arrangements for labor priorities had been made. Such policies are necessary in order to assure the most effective utilization of existing man power in the national interest.

RICHARD A. LESTER

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TITLES OF NEW BOOKS

Economic Theory; General Works

ATTEBERRY, G. C., AUBLE, J. L. and HUNT, E. F. *Introduction to social science, a survey of social problems.* Vol. II. Foreword by LOUIS WIRTH. (New York: Macmillan. 1942. Pp. xix, 800. $4.)

BOHLMAN, H. W. and BOHLMAN, M. E. McC. *Our economic problems.* Heath's correlated soc. stud. (Boston: Heath. 1942. Pp. 608. $2.)
A high school textbook.

BROWN, H. G. *Basic principles of economics and their significance for public policy.* (Columbia, Mo.: Lucas Brothers. 1942. Pp. xvii, 542.)

BUCK, P. W. *The politics of mercantilism.* (New York: Holt. 1942. Pp. viii, 240. $2.)

BULLINGER, C. E. *Engineering economic analysis.* (New York: McGraw-Hill. 1942. Pp. xi, 359. $3.50.)

BYE, R. T. *Questions and exercises on the principles of economics.* Rev. ed. (New York: Crofts. 1941. Pp. 134. $1.)

KNIGHT, B. W. *Economic principles in practice.* Rev. ed. (New York: Farrar and Rinehart. 1942. Pp. xiv, 659.)

KUZNETS, S. S., and others. *National income and its composition, 1919-1938.* 2 vols. Pub. no. 40. (New York: Nat. Bur. of Econ. Research. 1941. Pp. 959. $5.)

MACIVER, R. M. *Social causation.* Soc. sci. ser. (Boston: Ginn. 1942. Pp. x, 414. $3.50.)

MARGET, A. W. *The theory of prices; a re-examination of the central problems of monetary theory.* Vol. 2. Prentice-Hall econ. ser. (New York: Prentice-Hall. 1942. Pp. xxv, 802. $6.)

PEGG, C. H., and others. *American society and the changing world.* (New York: Crofts. Pp. 614. $3.50.)
This college textbook in social science attempts to view American society and its problems as a part of a dynamic interdependent world now in the throes of swift transition.

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NOTES

Editorial Notes—Under present circumstances it is difficult to secure review copies, or even to know of the existence, of books published in foreign countries which may be of interest to readers of the *Review*. Several persons have assisted by voluntarily calling attention to foreign books, and in a few instances by submitting unsolicited reviews. Assistance of this sort is much appreciated, and I hope that others will serve the readers of the *Review* in the same way.

The preparation of the list of articles from current periodicals which appears in each number of the *Review* presents an almost insoluble problem of selection. The listing has been curtailed by the omission of many short articles from dubitably scientific periodicals, and has been extended to include more articles from the law quarterlies. The most difficult area of choice is that of the numerous periodicals dealing with specialized fields which are of interest to various groups of economists, such as accounting, taxation, marketing, insurance, agricultural economics, transportation, and industrial management. It is impossible to be exhaustive, so it is necessary to suppose that people with highly specialized interests follow the periodical literature in their own fields and are not dependent on the *Review* as a primary bibliographical source. I hope, however, that persons who find the present listing inadequate for their needs will send in their suggestions for broader coverage.

The *Review* is also receiving a large number of economic and statistical periodicals from Latin America, from which only a very select list of titles is published. A complete list of these periodicals will be published in September, as a guide to economists interested in the economic affairs of Latin America.

Attention is again called to the need of the *Review of Economic Studies* for new American subscribers to take the place of continental European subscribers. In spite of the influential part it has played in the development of economic analysis in recent years, for some reason it has had a very small number of paid-up American subscribers. Checks for the subscription price of $2.00 should be sent to Paul M. Sweezy, 10 Forest Street, Cambridge, Mass.

An inquiry has recently been sent to all institutions known to grant doctor's degrees in economics, requesting data concerning candidates for the thesis list to be published in September. If any institution having doctoral candidates has not received this inquiry, it would be appreciated if it will write this office at once.

All over the United States, and especially in Washington, small groups of economists are engaged in intensive study and discussion of problems of economic analysis and public policy. But for some reason the results of this forward-looking thought do not readily reach the economic journals. "The Inflationary Gap," for example, on which a two-man symposium is published in this number, has been actively under discussion for over a year. Problems of general rationing, on which it is hoped to publish a symposium in September, have similarly escaped the printed page. It will be a substantial aid in getting such subjects promptly into print for the general benefit of economists if persons immediately concerned will call them to my attention and suggest a panel of competent persons to discuss them.—P.T.H.

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The American Council of Learned Societies is sponsoring a program of intensive instruction in languages designed to provide opportunity for Americans trained in the usual university disciplines—history, economics, engineering, journalism, the physical and mathematical sciences, etc.—to add to their competences control of one of the unusual languages likely to be necessary in the war effort. Those interested can learn more of the program by writing to The Intensive Language Program, American Council of Learned Societies, 1219 Sixteenth Street, N.W., Washington, D.C.

The Science-Technology group of the national Special Libraries Association has undertaken to compile, for the benefit of users of the Russian scientific and technical periodicals, current or otherwise, a complete list of the holdings of such periodicals in all the libraries of the United States and Canada, as far as possible, whether personal, institutional or industrial. Owners and librarians in charge of such materials are asked to send in on 3 by 5 inch slips the following information: (1) title of periodical, transliterated according to A.L.A. or Library of Congress rules; (2) holdings in volume numbers and years exact to month and issue number; (3) is it received currently? (4) can the periodicals be borrowed? photostatted? microfilmed? (5) subject or subjects to which this periodical is devoted; (6) former titles, if any, in chronological order and on the other side of the slip. This information should be sent to Miss Nathalie D. Frank, 512 West 162nd Street, New York, New York.

Jessica B. Peixotto, professor emeritus at the University of California, died in October.

Appointments and Resignations

J. Russell Andrus, associate professor of economics at the University of Redlands, is on leave of absence and is now working as economic research analyst for the Far Eastern Section of the Bureau of Foreign and Domestic Commerce, Washington, D.C.

James W. Angell, professor of economics at Columbia University, was granted a leave of absence during the second semester of 1941-1942 to accept an appointment in Washington, D.C.

Roy Ashmen, instructor in accounting at Louisiana State University, is now a lieutenant in the Naval Reserve and is stationed at Jacksonville, Florida.

Rollin S. Atwood of the University of Florida has been granted a leave of absence to become economic analyst attached to the United States Embassy at Quito, Ecuador.

William Bade, a New York University-Tax Foundation Fellow, has resigned to accept a position with the War Production Board in Washington, D.C.

Marvin A. Bacon of the University of Michigan is now in the Rent Division of the Office of Price Administration.

Theodore N. Beckman of Ohio State University is now serving on a part-time basis as chief consultant of the Division of Civilian Supply, War Production Board.

M. M. Bober has been granted a leave of absence from Lawrence College to join the staff of the Office of Price Administration, Washington, D.C.

Gladys Boone has been appointed chairman of the new Division of Social Studies at Sweet Briar College, which combines the department of economics and sociology and the department of history and government.

Daniel Borth, professor of accounting in the College of Commerce and auditor of Louisiana State University, joined the Army in February with the rank of Major in the Quartermaster Corps and is now stationed in Washington, D.C.

D. O. Bowman, instructor at the University of Michigan, has been given leave for the duration of the emergency to work in the Chicago office of the Office of Price Administration.

Benjamin F. Brooks, professor of economics at Butler University, has been granted leave of absence to become a liaison officer with the Civil Service Commission in Washington, D.C.

R. P. Brooks, dean of the College of Business Administration, University of Georgia, is regional price executive of the Office of Price Administration in the Atlantic office.

J. Douglas Brown, who has returned to Princeton University from the War Production Board, is serving as a consultant to the War Department on man-power policy.

Roy J. Bullock has been promoted to associate professor of political economy at the Johns Hopkins University.

Malcolm Burnside has been given a leave of absence by the American Telephone and Telegraph Company and has entered active service as a Naval Reserve officer.

Henry Chen, junior assistant in the department of economics of the School of Commerce, New York University, has been appointed a representative of the Ministry of Economics of the Republic of China.

Morris Chertkov has received an appointment in the legal division of the War Production Board, at Washington, D.C., and is on leave from the University of Washington.

Howard E. Cooper has been promoted to associate professor of political economy at the Johns Hopkins University.

R. S. Cornish, formerly of Waynesburg College, has joined the staff of the College of Business Administration at the University of Georgia as an associate professor of economics.

Virgil Cover has returned to Washington from Dallas, where he was regional business consultant for the Department of Commerce, to assume the position of transportation economist in the Bureau of Foreign and Domestic Commerce.

Earl C. Crockett, professor of economics at the University of Colorado, has been granted a leave of absence to work with the War Production Board, Washington, D.C.

Walter A. Chudnowsky has been appointed an instructor in economics at Columbia University after having served as a research associate with the National Bureau of Economic Research during the past year. He is also serving as a consultant in the Division of Research of the Office of Price Administration.

Amando M. Dalissay is now a junior business economist with the Office of Price Administration.

Paul T. David has resigned as associate director for research and chief economist of the American Youth Commission of the American Council on Education to accept a position as a chief statistical analyst in the Fiscal Division of the United States Bureau of the Budget. He was formerly secretary of the President's Advisory Committee on Education.

Leonard A. Drake, who has been in government service for some time, carrying on economic research work in other agencies, has been appointed regional business consultant of the Department of Commerce, and is stationed at Philadelphia.

William E. Dunkman is on leave from the University of Rochester while working in the Division of Civilian Supply of the War Production Board.

Robert P. Eastwood has been promoted from instructor to assistant professor of business statistics in the Columbia University School of Business.

Clarence W. Efroymson, associate professor of economics at Butler University, has been

granted leave of absence while working with the Office of Price Administration, Washington, D.C.

Wilford J. Eiteman of Duke University is on leave of absence and is at present in the Office of Price Administration in the Nonferrous Materials Division.

George Heberton Evans, Jr., has been promoted to professor of political economy at the Johns Hopkins University.

J. Wesley Fly of the University of Florida, who held an officer's commission in the Reserve Corps, has been granted a leave of absence upon being called into active service.

John L. Fulmer, associate professor of rural economics at the University of Virginia, has been given a leave of absence and is now a Captain in the Army.

Mary Gilson of the University of Chicago gave a course in industrial relations at Wellesley College during the second semester of 1941-1942.

Henry Glass, a former junior assistant in the department of economics of the School of Commerce, New York University, is now with the Office of Price Administration, Washington, D.C.

Joseph Gordon, formerly assistant manager of the research department of Merrill, Lynch, Pierce, Fenner and Beane, New York, is now chief of the Import Priorities Section of the War Production Board.

Robert E. Graham, Jr., acting associate professor of rural economics at the University of Virginia, was called into active service in February and is now a Lieutenant at Fort McClellan, Alabama.

William Haber, professor of economics at the University of Michigan, was given leave for the second semester to assist the Director of the Budget in Washington, in coördinating various pension plans.

George G. Hagedorn of the Lehman Corporation joined the Army in March.

Everett E. Hagen of Michigan State College is now serving with the National Resources Planning Board, Washington, D.C.

James K. Hall of the University of Washington has been appointed price executive with the Seattle office of the Office of Price Administration and will be on leave until September.

Earl J. Hamilton of Duke University will spend four months, June through September, in the archives of Colombia, Guatemala, and Mexico, gathering material for a book on the economic background of the Monroe Doctrine.

Tom Hancock, instructor in economics at the University of Kansas, entered the Army in February.

Robert W. Harbeson of Rutgers University has been appointed economic consultant to the New Jersey Rationing Administration.

David Harrison of the department of economics of Ohio State University is serving as senior economist in the Steel Section of the Office of Price Administration.

Everett D. Hawkins, associate professor of economics, has been granted leave of absence from Mount Holyoke College extending through 1942-43, in order to accept a special assignment with the Office of Price Administration.

Carl H. Henrikson, Jr., regional business consultant of the Department of Commerce at Philadelphia, has been transferred to New York, where he is at the Department's regional office, 500 Fifth Avenue.

William W. Hewett, professor of economics at the University of Cincinnati, was granted a leave from April 20 to June 30, to accept a special assignment with the Tax Research Division of the Treasury Department.

Frederick R. Hoisington, Jr., of the International Telephone and Telegraph Corporation, has been appointed principal economist with the Alien Property Division of the Department of Justice.

Edgar M. Hoover, Jr., associate professor of economics at the University of Michigan, is on leave of absence and will work through the summer in the Fuels Division of the Office of Price Administration in Washington.

M. H. Hornbeak, formerly associate professor of business administration at Louisiana State University and lately vice president of the Louisiana National Bank, Baton Rouge, entered the army in March as a Lieutenant in the Quartermaster Corps, stationed in Washington.

Clifford James, professor of economics, is on leave of absence from Ohio State University to serve as regional price executive in the Office of Price Administration, in Cleveland.

Lloyd Johnson has been appointed instructor in accounting at the University of Florida.

Richard B. Johnson, assistant professor of business and economics at the University of Arkansas, has resigned to assume the position of regional business consultant of the Department of Commerce, stationed at Dallas. Before going to Dallas, he spent considerable time in Washington, becoming acquainted with the work of a number of war agencies.

J. Maynard Keech of Duke University is on leave and is at present with the Civil Service Commission.

Marshall D. Ketchum, recently advanced from assistant to associate professor of economics at the College of Commerce, University of Kentucky, will be professorial lecturer in finance in the School of Business, University of Chicago, during the summer quarter of 1942.

Will F. Kissick, chief economist of the Coöperative Business Research Station established jointly by the University of Minnesota and the Department of Commerce at Minneapolis, has been transferred to the regional office in Minneapolis as acting regional business consultant.

Harold D. Koontz, assistant professor of economics at Colgate University, has been named economic consultant to the chief of the Machinery and Equipment Section of the Office of Price Administration.

Mabel S. Lewis has taken a position with the Post-War Division of the Bureau of Labor Statistics, Washington, D.C.

Shaw Livermore, professor of economics, has been on leave from the University of Buffalo since April, 1941, to serve in the Priorities Division of the War Production Board.

Clarence D. Long has been promoted to associate professor of economics at Wesleyan University and granted a renewal of his leave of absence. During 1941-42, he has been preparing a book on the history of unemployment in the United States, with the support of a Guggenheim Fellowship and a membership in the Institute for Advanced Study at Princeton. He will continue this work during 1942-43 under the same auspices.

Hastings Lyon is retiring from the Columbia University School of Business at the end of the 1941-42 academic year.

Donald H. Mackenzie, associate professor at the University of Washington, has been acting as an examiner for the National War Labor Board in matters affecting waterfront labor relations in the Puget Sound area.

Lewis F. Manly has been named acting chairman of the department of economics and sociology at Tufts College.

Donald Marsh, instructor in economics in Barnard College, Columbia University, will teach introductory economics in the new summer session for the acceleration of the college course for women undergraduates.

Boyce F. Martin, dean of the School of Business Administration at Emory University, has resigned to take a position with the Louisville Cement Company.

Carl Marzani, senior assistant and part-time instructor in the department of economics of the School of Commerce, New York University, has resigned to accept a position with the Coördinator of Information in Washington, D.C.

Walter J. Matherly, dean of the College of Business Administration, University of Florida, has been appointed a director of the Jacksonville branch of the Federal Reserve Bank of Atlanta.

Orville J. McDiarmid, assistant professor of economics and business administration at the College of William and Mary, is on leave for the second semester of 1941-42 and is

now employed as economist in the Post-War Division of the Bureau of Labor Statistics.

F. Eugene Melder, associate professor of economics and sociology at Clark University, has been awarded a grant-in-aid by the Social Science Research Council for research on the impact of interstate trade barriers.

B. J. Merriam, instructor in economics at the University of Kansas, resigned at the end of the first semester of 1941-42 to accept employment with the Transportation Board, Washington, D.C.

Nicholas Mirkovich, formerly at the department of economics, University of California, resigned from the staff of the International Secretariat of the Institute of Pacific Relations to join the Yugoslav Government in London as chief of the newly created Office of Reconstruction and Economic Affairs, and also to act as deputy chairman of the Economic Division of the Eastern and Central European Planning Board, a joint planning body of the governments of Poland, Czechoslovakia, Yugoslavia and Greece.

Robert C. Mizell, director of university development at Emory University, has been appointed acting dean of the School of Business Administration.

Jacob L. Mosak of the University of Chicago has been given a leave of absence and is now senior economist in the Office of Price Administration.

Peter F. Palmer, instructor in economics at the University of Kansas, resigned at the end of the first semester of 1941-42 to accept an appointment as assistant professor of economics at Marquette University.

Harlow S. Person is retiring from the School of Business Administration of Columbia University in June.

Charles F. Phillips, professor of economics at Colgate University, has been named associate price executive in the Rubber Division of the Office of Price Administration. He was formerly a marketing consultant for the Office.

Earl Powers, who held an officer's commission in the Reserve Corps, has been granted a leave of absence by the University of Florida, upon being called to active duty.

L. B. Raisty, head of the department of public finance at the University of Georgia, is in charge of the administration of installment buying regulations at the Federal Reserve Bank of Atlanta.

Joseph S. Ransmeier, instructor in economics at Vanderbilt University, is now working in Washington at the Office of Price Administration.

Lloyd G. Reynolds has been promoted to associate professor of political economy at the Johns Hopkins University.

J. H. Richardson, formerly visiting professor at the University of Toronto, has been appointed economic adviser to the Governor of Bermuda.

B. R. Risinger, instructor in business administration and assistant to the dean of the College of Commerce at Louisiana State University, was made purchasing agent of the University in April.

W. R. Roane, instructor in accounting and assistant auditor of Louisiana State University, has been named auditor of the University.

Myron Rosenfield of the New York State Division of State Planning is now employed as an associate economist in the Copper and Brass Section of the Office of Price Administration.

Raymond J. Saulnier, professor of economics at Barnard College, taught monetary economics at Columbia University during the last part of the second semester of 1941-42.

Franklin Scheider, instructor at the College of Business Administration, University of Georgia, is now a reserve officer at Fort Benning.

Melvin J. Segal has been granted a leave of absence from Southern Illinois Normal University to accept a position as chief economist with the Minimum Wage Board of the Government of Puerto Rico.

William H. Shannon, associate professor of accounting at the University of Kansas, has been granted a leave of absence while serving in the Navy, where he holds the rank of Lieutenant in the Supply Corps.

I. Leo Sharfman, professor of economics at the University of Michigan, has been appointed an associate member of the War Labor Board.

Lloyd L. Shaulis, chairman of the department of economics and sociology at Tufts College, has been on leave of absence since February, and is now with the Office of Price Administration.

Edward C. Simmons, who has held a post-doctoral fellowship of the Social Science Research Council, has transferred to the Office of Price Administration in Washington, D.C.

Isidore Singer, formerly of the College of the City of New York and Brooklyn College, has been appointed junior assistant in the department of economics of the School of Commerce, New York University.

Arnold L. Skinner, formerly stationed at the regional office of the Bureau of Foreign and Domestic Commerce in Minneapolis, has joined the Naval Reserve.

R. Elberton Smith, formerly of the department of economics at the University of Denver, is now an economist in the Research and Analysis Section of the War Production Board.

Robert S. Smith of Duke University has received a Guggenheim award and will spend the summer in Mexico, in research on economic history.

Joseph J. Spengler has resumed his teaching duties at Duke University after being on sabbatical leave in the first semester.

Henry W. Speigel of Duquesne University will teach courses in war economics and agricultural policy in the summer session at Michigan State College.

John D. Sumner, professor of economics, has been on leave from the University of Buffalo since June, 1941, and is serving as price executive in the Office of Price Administration.

Glenn W. Sutton of the University of Georgia has been commissioned in the Navy and is located in Rhode Island.

W. A. Tolman is on leave from the University of Kentucky and has accepted a position as regional price economist in the Bureau of Labor Statistics in charge of the Atlanta regional office.

Lawrence W. Towle of Lawrence College was acting professor of economics at the University of Florida for the second semester of 1941-42.

Malcolm D. Taylor has been granted a leave of absence from the University of North Carolina to accept a position with the Civil Service Commission.

Lorie Tarshis, assistant professor of economics at Tufts College, has accepted a position with the Board of Economic Warfare.

Mary Van Brunt taught introductory economics at Barnard College during the second semester of 1941-42.

Charles J. Walsh, assistant professor of economics at the School of Business, Fordham University, has been granted a leave of absence in order to accept a position as business specialist with the Office of Price Administration, Washington, D.C.

Edward C. Welsh is on leave of absence from the department of economics of Ohio State University to serve as principal economist in the Office of Price Administration in Cleveland.

Robert L. Whaley, formerly commercial agent for the Department of Commerce stationed at Detroit, has assumed the position of regional business consultant at St. Louis, following an intensive period of training in Washington, to acquaint him with the work of the federal agencies in St. Louis.

Bayard O. Wheeler, lecturer at the University of Washington, is doing part-time research in the Seattle office of the Bureau of Labor Statistics and in the Seattle office of the Office of Price Administration, where he will be on a full-time basis after June 15.

Joseph A. Yager, formerly teaching fellow at the University of Michigan, is working with the National Resources Planning Board in Washington.

E. L. Zingler of Louisiana State University is on leave until September with the National Resources Planning Board in Dallas.

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SUPPLEMENT

Papers Relating to the Temporary National Economic Committee

CONTENTS

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THE EXTENT AND BASES OF MONOPOLY

By GEORGE J. STIGLER

I shall summarize and appraise in this paper material provided by the Temporary National Economic Committee in answer to two basic questions:

1. What are the relative rôles of competition and monopoly in the American economy?
2. What are the leading bases of monopoly?

The discussion of these questions will be highly selective. Obviously no one need apologize for a lack of comprehensiveness in a discussion of approximately thirty-three thousand pages of hearings and monographs. I have gone much further and concentrated attention upon a very few topics in the conviction that an encyclopedic, running commentary would be of little value.

I—The Competitiveness of the Economy

Although several specific T.N.E.C. studies are concerned directly with measures of monopoly or concentration, and although much of the entire investigation can be viewed as an unsystematic investigation of the extent of monopoly,[1] the meaning of the search received little attention. It is not possible here to examine the problem in appropriate detail, but at least a cursory examination is in order.

We may begin by raising a point of terminology. If we mean by competition and monopoly perfect competition and perfect monopoly,[2] obviously neither has ever existed nor will either ever exist. (The frequent criticism of theoretical, and especially classical, economists that they are or were not aware of this fact reveals both a distressing ig-

[1] In the President's Message of April 29, 1938, which led to the T.N.E.C., the recommendations begin, "To meet the situation I have described, there should be a thorough study of the concentration of economic power in American industry and the effect of that concentration upon the decline of competition." (*Investigation of Concentration of Economic Power,* Hearing before Temporary National Economic Committee, December 1938, on Pub. Res. 113 (75th Cong.), Pt. 1, *Economic Prologue* [Washington, Supt. Docs., 1939], p. 189. See also Appendix A, *infra,* p. 125.) The resolution establishing the committee named as its first duty the fulfillment of this and other requests of the President (*ibid.,* p. 192; see also Appendix B, *infra,* p. 129.)

[2] The specifications of perfect competition are well known (see F. H. Knight, *Risk, Uncertainty and Profit* [London School Reprints No. 16, 1933], chaps. 1, 6; for those of perfect monopoly, see R. Triffin, *Monopolistic Competition and General Equilibrium Theory* (Harvard Press, 1940). Perfect monopoly in this sense is merely a technical method of describing a closed economy containing only one economic unit.

norance of the literature and a lack of understanding of scientific methodology.) These limiting concepts obviously cannot be used directly in an empirical study. This is apparent if one asks how our economy differs in detail from one in which entrepreneurs have complete knowledge of future prices and future technological development; no one can know the answer.

The selection of a comparative system which can be used as a frame of reference in judging our present economy will depend almost exclusively upon the purpose of our investigation. The only important purpose of such an investigation is to improve economic policy, so the comparative system should be an alternative form of economic organization which is proposed by the investigator. Historically some form of competitive enterprise economy has been the American choice of method of dealing with the economic problem. It is probably correct to say that this objective was accepted by most of the T.N.E.C. staff and by most of the witnesses, although in both cases the ambiguity of the objective contributed greatly to the wideness of its acceptance.[3] But no attempt was made to define this objective with any precision, and as a result the judgments passed on particular industries (especially in the monographs) are not comparable.

It is necessary, therefore, to replace the standard of a competitive enterprise economy by a more specific comparative system. The system here chosen may be characterized as workable competition, although "workable" is used because it has already gained some currency and not because it is believed that such competition is always practicable. It would take us far afield to defend this choice but it may be observed that, for the chief use made here of the concept, certain other systems (*e.g.*, socialism) would lead to very similar results. The following definition of workable competition is of course tentative; it is designed primarily to illustrate the type of specific criterion which is necessary to a general investigation of monopoly: "An industry is workably competitive when (1) there are a considerable number of firms selling

[3] In its final report, the T.N.E.C. "recommends the maintenance of free, competitive enterprise by the effective suppression of the restrictive practices which have always been recognized as evil." (*Final Report and Recommendations of the T.N.E.C.*, S. Doc. 35, 77th Cong., 1st sess. [Washington, Supt. Docs., 1941], p. 9.)

One example of the ambiguous use of "competition" may be cited:

"The Chairman. Then is it your advice to this committee, as a person of prominence in industry, that the competitive system should be maintained?

"Mr. Greene. I certainly think it should.

"The Chairman. Do you think it would be inadvisable for Congress, by law in any way to weaken the competitive system?

"Mr. Greene. Well, I think the freedom of business from regulation is very important, very desirable." (Hearings, Pt. 18, *Iron and Steel Industry*, p. 10280.)

closely related products in each important market area, (2) these firms are not in collusion, and (3) the long run average cost curve for a new firm is not materially higher than for an established firm."[4] It is probable that in certain cases the definition of perfect competition would have to be approximated more closely. For instance, in the retail market one might also specify that consumers have easy access to information concerning the technical properties of commodities.[5]

Three general problems may be distinguished in an empirical study of the efficiency of an economy, and all were recognized in the course of the T.N.E.C. inquiry. First, there is the question of partial equilibrium analysis: how far do the prices, outputs, investments, employment, quality of product, etc., in various selected industries differ from what they would be if the industries were workably competitive? The measurement of this discrepancy in specific industries would be a difficult task. To know price and output in an industry under workable competition, for instance, it would be necessary to know the demand curve, and the difficulties involved in statistical studies of demand, especially for nonagricultural products, are notorious. But two comments on these difficulties are in order. A reasonable approximation is all that is needed; rigorous mathematical demonstrations are simply in another universe. Moreover, if the economist cannot influence social policy by providing at least approximate quantitative results, he must resort to abstract analysis, for which there is not a wide demand, or to oratory, at which he customarily does not excel.

These comparisons of actual prices and outputs with those which would rule under workable competition would, if carried out for numerous industries, provide one important basis for the formulation of legislative policy and the administration of the antitrust laws. What is more important, they would serve as an intelligible basis for public decisions concerning economic policy. Many economists seem to enjoy emphasizing the fact that "consumers" are indifferent and unorganized (one cynic has called them the great unwashed) but few point out the fact

[4] The first two points serve to eliminate not only monopoly and explicit collusion but also tacit avoidance of price competition for fear of retaliation of close rivals. The necessary number of firms is relevant to such questions as "trust-busting," but it has no bearing on the measure of departure of an industry from workable competition. The third point excludes direct and indirect controls of entry of new firms.

[5] Professor Clair Wilcox's definition, "the availability of buyers of genuine alternatives in policy among their sources of supply" (C. Wilcox, *Competition and Monopoly in American Industry*. T.N.E.C. monog. no. 21 [Washington, Supt. Docs., 1940], p. 8), appears to be too loose; one could always use something else in place of aluminum. Professor J. M. Clark's discussion for the case of the long run harmonizes fairly well with the definition here advanced; see "Toward a Concept of Workable Competition," *Am. Econ. Rev.*, Vol. XXX (June, 1940), pp. 241-49.

that specific information which can be assimilated by the nonprofessional is rarely available in a form which bears a reasonably direct relationship to economic policy.

With respect to this objective, the T.N.E.C. rates a very low score. In only a very few cases is a specific comparison undertaken of the present facts in an industry with those which would rule under workable competition.[6] Customarily not even the most fundamental data (*e.g.*, costs) were provided. This failure is attributable, I believe, to three factors: (1) First and most important, the T.N.E.C. did not have a specific program, it did not define fundamental terms, and it did not erect precise criteria. (2) The constituency of the committee and the nature of the public hearings were ill-suited to detailed and technical discussions of this nature.[7] (3) Some of the research was conducted by agencies which yielded to the temptation to compile data "which will provide an invaluable basis for future work on this subject."

The second major problem is concerned with the much discussed question: How competitive is the economy as a whole? Despite the frequency with which dogmatic answers are given to this question, it is doubtful whether any meaningful answer is attainable. If the comparisons of actual conditions with those ruling under workable competition were carried out for all important industries, the results could scarcely be combined. In one industry the investment would be too large, in another too small; in one industry quality would be inferior, in another price too high. And waiving the difficulty of combining such diverse elements into a single index, there would remain the fact that partial equilibrium studies cannot be added together: the divergences in any one industry depend upon the extent of competition elsewhere. Aside from such weighty objections, it is difficult to find any important purpose in asking how competitive an economy is. There is some intellectual curiosity in knowing how much smaller national income is than it would be under workable competition (where practicable!), but the curiosity does not merit huge expenditures for a crude and unsatisfactory answer.

The third problem, the explanation of unemployment and the level

[6] Professor James estimates the cost to consumers of the duties and quotas on sugar and rayon at 274 million dollars and 70 million dollars per year respectively (*Industrial Concentration and Tariffs*, monog. no. 10, chap. 7). The hearings on the sulphur industry imply that the price of sulphur would be about $7.00 or $8.00 a ton, and not $18 as with the present duopoly (Hearings, Pt. 5, *Monopolistic Practices in Industries*, pp. 1992 *ff.*). There are some relevant data in Professor Warren C. Waite's study of federal milk price fixing programs (*Economic Standards of Government Price Fixing*, monog. no. 32, pp. 87-91); and some of the testimony in the Hearings is also pertinent (Hearings, Pt. 7, *Milk Industry; Poultry Industry*, pp. 2782 *ff.*, 2831 *ff.*).

[7] See the reactions of the committee to the discussion of marginal cost curves (Hearings, Pt. 26, *Iron and Steel Industry*).

of output of the economy, is treated at length in Dr. Abramovitz's able paper. Yet it may be permissible to reëmphasize the fact that the T.N.E.C. almost completely ignored the monopoly question at this point. Only one school of monetary theorists, the depression-minded Keynesians, were heard.[8] The discussion ran primarily in terms of the *technical* exhaustion of private investment opportunities. Virtually no attention was paid to the effects on private investment of cost-price relationships, and more particularly of monopoly—a problem, incidentally, of which price flexibility is only a small part.[9] Considering the auspices under which the studies of unemployment of resources were presented, this neglect seems inexcusable.

II—Competition and Monopoly in the Economy

Three types of information are provided by the T.N.E.C. with respect to the extent of competition and monopoly in the economy. They are (1) a general survey of secondary materials, (2) large scale statistical investigations, and (3) a variety of investigations of particular industries.

In his general survey, Professor Clair Wilcox[10] classifies industries as workably competitive or monopolistic, and then divides this latter class into three groups (monopoly, oligopoly, and cartels), primarily on the basis of the form of market organization. I have already expressed the opinion that the task was well done,[11] but this type of approach is subject to two important limitations. First, as the preceding discussion argues, we do not yet possess the information to classify industries accurately as workably competitive or otherwise, and the

[8] Hearings, Pt. 9, *Savings and Investment.*

[9] The topic of monopoly received little explicit attention—none from Currie or Hansen—and no important additions were made to our theoretical or factual knowledge. On the general question, see *Saving, Investment and National Income,* monog. no. 37, p. 101; *Technology in our Economy,* monog. no. 22, Pt. II, chap. 4; on housing, see Hearings, Pt. 11, *Construction Industry; Toward More Housing,* monog no. 8, Pt. I, chap. 5; on natural gas, see *Reports of the Federal Trade Commission,* monog. no. 36, pp. 71 *ff.* Martin Taitel attempted to prove by means of a statistical study that the importance of the profit rate in investment decisions has been exaggerated. "Factors other than the amount or the rate of profit have been the major determinants of the level of capital expenditures of groups of companies. Of these other factors, the most important have been the level of output in relation to capacity and the pressure upon business for the introduction of available new technologies." (*Profits, Productive Activities and New Investment,* monog. no. 12, p. xix.) But surely technological improvements and the rate of operation are really only two of the factors affecting the profit rate, and both influence investment decisions through the profit rate. Dr. Abramovitz has pointed out that a convincing statistical demonstration of the unimportance of the profit rate would require (1) use of expected, not realized, profits, and (2) comparison between industries in which entry is easy.

[10] *Competition and Monopoly,* monog. no. 21.

[11] See my comments, this *Review,* Vol. XXXI (September, 1941), pp. 573-74.

T.N.E.C. did little to remedy this defect. Second, and more important, we do not know how far the monopolistic industries depart from workable competition. If the list of monopolistic industries expands, it is not possible to state with any assurance that the economy is less competitive.

It is worth emphasizing that a general survey in nonquantitative terms, such as Wilcox's (or Burns's), is almost certain to leave an exaggerated impression of the extent of monopolization of the economy. The competitive industries are essentially similar in their characteristics and broad patterns of behavior, so they receive brief attention in order to avoid tiresome repetition. The monopolistic industries are much more varied in their market practices, and they provide an unlimited number of examples of chicanery, exploitation, and other savory literary items. As a result the distribution of space and emphasis is always biased. Wilcox, for instance, devotes approximately equal space to the huge, competitive women's apparel industry and to beryllium, yet the sales of the latter commodity are probably less than those of any one size of cotton dress.

In *The Structure of Industry*[12] several broad statistical studies of concentration are presented. The first is a study of employment and product per establishment (plant) in manufacturing industries; the averages rose 35 and 80 per cent respectively from 1914 to 1937.[13] These averages are not sufficiently relevant to the question of the extent of competition to merit analysis here. Somewhat more pointed measures of concentration are also computed for 195 industries, on the basis of the number and proportion of plants employing half of the workers in each industry.[14] There are several difficulties in interpreting the results of this study. The data as presented do not tell us the extent of concentration in individual industries, but only changes relative to 1914. The tests of concentration are relatively crude.[15] And the Presi-

[12] Monog. no. 27.

[13] *Ibid.*, p. 4.

[14] In a given industry, let there be n plants in the base year (1914) employing $x_1, x_2, \ldots, x_n$ workers in decreasing order of size; the first p plants employ half of the workers. In any given year, let there be m plants employing $y_1, y_2, \ldots, y_n$ workers in decreasing order of size; the first q plants employ half of the workers (*ibid.*, pp. 54 *f.*). Then the absolute index (AI) is defined as

$$AI = p/q \times 100.$$

The relative index (RI) is defined as

$$RI = \frac{p}{n} / \frac{q}{m} \times 100.$$

Hence AI = n/m RI.

[15] The following example will suffice. Let employment be the same in 1914 and 1917 in a given industry. If in 1914, 15 equal-sized plants hire half the labor and 100 plants hire the remainder, and in 1917 one plant hires 30 per cent of the labor, the next 19 plants 20 per

dent's request, to study "the effect of concentration on the decline of competition," is unfortunately ignored here as elsewhere in the monograph.

The other statistical survey measures the concentration ratios (ratio of the output of the four largest firms to United States production) for 1807 products of manufacturing industries. There is one grave defect in the statistical procedure: the *production* of domestic concerns is the basis of the computation. Surely the domestic consumption *plus* imports should have been used if the findings are to be interpreted as evidence of the extent of monopoly in the domestic economy. This oversight introduces a fairly systematic bias in the direction of exaggerating concentration.[16] Moreover, this bias is very large, as the following tentative corrections show:[17]

	Concentration Ratio	
Commodities	*Monograph No. 27*	*Revised to Include Imports*
Newsprint	68.1	15.2
Crude Glycerine	40.2	24.8
Acetic Acid	73.4	58.4
Sodium Sulphate	63.0	35.2
Tin	89.6	.4
Cigarette Paper	71.6	50.4
Burlap	39.6	23.4
Rayon Waste	70.9	32.6
Whiskey	40.0	25.1

The omission of imports is therefore sufficient, I believe, to vitiate the conclusions of the monograph.[18]

Even if concentration ratios are revised, however, they are a poor index of monopoly. They minimize the extent of monopoly control in many cases: all markets are treated as national; collusion between firms is not considered; and physically similar commodities are treated as identical. But, on the other hand, intercommodity competition is ignored, and this is an equally fatal defect. For instance, over 5 per cent of the products are in the textile group, and almost all of these have

cent, and 95 plants the remainder, the absolute index is 75 and the relative index is also 75. Yet monopoly power has very probably increased.

[16] This is obvious when the commodity is on an import basis. If the commodity is exported, on the other hand, the concentration ratio used in the monograph does not systematically understate concentration, for all companies usually are or can be in both domestic and export markets. The concentration ratio will be increased if one of the four largest firms is also a large importer (*e.g.*, copper) and it may be increased when an importer is one of the four largest "producers."

[17] The data are taken from *Structure of Industry*, monog. no. 27, pp. 420 *ff.*, and from the *Statistical Abstract;* the year is 1937. The corrections are probably exaggerated in some cases because it is not known who the importers were.

[18] The same criticism can be made of the concentration ratios in the National Resources Committee's *The Structure of the American Economy.*

nigh concentration ratios. Yet the substitution possibilities on the supply side (to say nothing of the demand side) between many of these similar products make it reasonably certain that monopolistic powers are in general small.[19] Again, the concentration ratio for motor vehicles is almost 90, but this ratio takes no cognizance of the large used-car market. It is doubtful whether the monopoly question will ever receive much illumination from large scale statistical investigations.

In addition to these broader studies, numerous monographs and most of the Hearings are devoted to specific industries and groups of industries.[20] These individual studies range in quality from the very good to the very bad, but it would be unfair to itemize the groups without a detailed justification which is beyond the limits of this paper.

III—The Economies of Large-Scale Production

Let us turn now to some of the bases of monopoly. The bases of monopoly here refer to the conditions or institutions which maintain the monopolistic situation, and not the (fairly obvious) incentives which lead to its formation. Bases for monopoly operate through either limitation of the number of firms or restriction on the market freedom of firms. The first basis to be considered is the economy of large-scale production. The incompatibility of competition and continuing economies of scale is well known;[21] here the existence of economies will be examined.

On general theoretical grounds, only two things can be said about the shape of the long-run average cost curve. First, large outputs have larger total costs than smaller outputs, so the elasticity of the average cost curve is numerically greater than one.[22] Second, long-run average

[19] For example, 16 companies make two-piece men's suits with extra knickers and the concentration ratio is 76.3, but 634 companies make men's three-piece suits (*Structure of Industry,* monog. no. 27, p. 425).

[20] On the group of agricultural industries, see monog. no. 35 (*Large-Scale Organization in the Food Industries*) and my comments, this *Review,* Vol. XXXI (September, 1941), pp. 576-77; and monog. no. 23 (*Agriculture and the National Economy*), which will be commented on below.

[21] A proof may be given. Under competition $p = k$, a constant. Long-run average costs may be denoted $\varphi(x)$, where x is output. Then total profits are

$$\pi = x(k - \varphi)$$

and for maximum profits

$$\frac{d\pi}{dx} = (k - \varphi) - x\varphi' = 0.$$

But $(k - \varphi)$ is positive and $-x\varphi'$ is also positive if there are continuing economies of scale, so the equation has no real roots; the determination of output is complex.

[22] This is sometimes proved formally: if $x_1 > x_0$ and the total cost of x_1 is less than that of x_0, one will produce x_1 even if x_0 is all that is desired and throw the remainder away. I prefer the more empirical (if less rigorous) argument that additional output must require more of some productive services and, within small variations of output, less of none.

cost must (at certain selected outputs) fall at a decreasing rate; the average cost curve is convex to the output axis.[23] Beyond this we cannot go without recourse to the facts. The T.N.E.C. provides facts of several varieties.

The first evidence is a summary by the Federal Trade Commission of the findings in 233 studies of average costs and rates of return on investment in various industries.[24] Using the cost figures, as more directly pertinent to the question of economies, in only one case of 59 did the largest or a large company have the lowest average costs and in only six cases out of 53 did the largest plant have the lowest average costs.[25] These findings are impressive, but they are subject to several important qualifications.

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dent's request, to study "the effect of concentration on the decline of competition," is unfortunately ignored here as elsewhere in the monograph.

The other statistical survey measures the concentration ratios (ratio of the output of the four largest firms to United States production) for 1807 products of manufacturing industries. There is one grave defect in the statistical procedure: the *production* of domestic concerns is the basis of the computation. Surely the domestic consumption *plus* imports should have been used if the findings are to be interpreted as evidence of the extent of monopoly in the domestic economy. This oversight introduces a fairly systematic bias in the direction of exaggerating concentration.[16] Moreover, this bias is very large, as the following tentative corrections show:[17]

	Concentration Ratio	
Commodities	*Monograph No. 27*	*Revised to Include Imports*
Newsprint	68.1	15.2
Crude Glycerine	40.2	24.8
Acetic Acid	73.4	58.4
Sodium Sulphate	63.0	35.2
Tin	89.6	.4
Cigarette Paper	71.6	50.4
Burlap	39.6	23.4
Rayon Waste	70.9	32.6
Whiskey	40.0	25.1

The omission of imports is therefore sufficient, I believe, to vitiate the conclusions of the monograph.[18]

Even if concentration ratios are revised, however, they are a poor index of monopoly. They minimize the extent of monopoly control in many cases: all markets are treated as national; collusion between firms is not considered; and physically similar commodities are treated as identical. But, on the other hand, intercommodity competition is ignored, and this is an equally fatal defect. For instance, over 5 per cent of the products are in the textile group, and almost all of these have

cent, and 95 plants the remainder, the absolute index is 75 and the relative index is also 75. Yet monopoly power has very probably increased.

[16] This is obvious when the commodity is on an import basis. If the commodity is exported, on the other hand, the concentration ratio used in the monograph does not systematically understate concentration, for all companies usually are or can be in both domestic and export markets. The concentration ratio will be increased if one of the four largest firms is also a large importer (*e.g.*, copper) and it may be increased when an importer is one of the four largest "producers."

[17] The data are taken from *Structure of Industry*, monog. no. 27, pp. 420 *ff.*, and from the *Statistical Abstract;* the year is 1937. The corrections are probably exaggerated in some cases because it is not known who the importers were.

[18] The same criticism can be made of the concentration ratios in the National Resources Committee's *The Structure of the American Economy.*

nigh concentration ratios. Yet the substitution possibilities on the supply side (to say nothing of the demand side) between many of these similar products make it reasonably certain that monopolistic powers are in general small.[19] Again, the concentration ratio for motor vehicles is almost 90, but this ratio takes no cognizance of the large used-car market. It is doubtful whether the monopoly question will ever receive much illumination from large scale statistical investigations.

In addition to these broader studies, numerous monographs and most of the Hearings are devoted to specific industries and groups of industries.[20] These individual studies range in quality from the very good to the very bad, but it would be unfair to itemize the groups without a detailed justification which is beyond the limits of this paper.

III—The Economies of Large-Scale Production

Let us turn now to some of the bases of monopoly. The bases of monopoly here refer to the conditions or institutions which maintain the monopolistic situation, and not the (fairly obvious) incentives which lead to its formation. Bases for monopoly operate through either limitation of the number of firms or restriction on the market freedom of firms. The first basis to be considered is the economy of large-scale production. The incompatibility of competition and continuing economies of scale is well known;[21] here the existence of economies will be examined.

On general theoretical grounds, only two things can be said about the shape of the long-run average cost curve. First, large outputs have larger total costs than smaller outputs, so the elasticity of the average cost curve is numerically greater than one.[22] Second, long-run average

[19] For example, 16 companies make two-piece men's suits with extra knickers and the concentration ratio is 76.3, but 634 companies make men's three-piece suits (*Structure of Industry*, monog. no. 27, p. 425).

[20] On the group of agricultural industries, see monog. no. 35 (*Large-Scale Organization in the Food Industries*) and my comments, this *Review*, Vol. XXXI (September, 1941), pp. 576-77; and monog. no. 23 (*Agriculture and the National Economy*), which will be commented on below.

[21] A proof may be given. Under competition $p = k$, a constant. Long-run average costs may be denoted $\varphi(x)$, where x is output. Then total profits are

$$\pi = x(k - \varphi)$$

and for maximum profits

$$\frac{d\pi}{dx} = (k - \varphi) - x\varphi' = 0.$$

But $(k - \varphi)$ is positive and $-x\varphi'$ is also positive if there are continuing economies of scale, so the equation has no real roots; the determination of output is complex.

[22] This is sometimes proved formally: if $x_1 > x_0$ and the total cost of x_1 is less than that of x_0, one will produce x_1 even if x_0 is all that is desired and throw the remainder away. I prefer the more empirical (if less rigorous) argument that additional output must require more of some productive services and, within small variations of output, less of none.

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transfers and not net social gains. It is not possible to separate these two types of economies in the F.T.C. data, or for that matter in the other cost studies here considered.[32]

A second measure of economies of scale rests on the following hypothesis: that the amount of electrical energy per man-hour in plants of various sizes is a good index of the adoption of "more modern and efficient types of technological equipment" and hence of the relative efficiencies of the various sizes of plants.[33] In each of 21 industries surveyed, the electrical energy per man-hour increased with the size of plant. The loosely formulated hypothesis scarcely carries conviction. The labor used in larger plants is probably more efficient,[34] and the products of these industries are doubtless also very heterogeneous. Nor does lower labor cost (if it is lower) per unit of output necessarily imply lower average costs for large plants.[35] The investigation may be only an illustration of the law of variable proportions.

The statistical analysis of the costs of the U. S. Steel Corporation made by Professor Yntema is the chief new material on the subject of costs in the T.N.E.C. record.[36] The cost curves derived are of a short-run nature,[37] but they cast light on the probable shape of the long-run average cost curve. The chief finding, it will be recalled, is that the total cost function of the U. S. Steel Corporation (as of 1938) was $C = \$182{,}000{,}000 + \$55.73\ Q$, where C is total cost and Q is tons of output.[38] Hence marginal costs are constant (and equal to $55.73) over an observed range from 4 to 15 million tons of output.

This finding of constancy of short-run marginal costs, which has also emerged from other costs studies, is open to a considerable number of objections which need not be examined here.[39] If we take the findings

[32] Difference in price paid for materials, for example, is due in part to the economies accruing from larger orders and shipments. Even the price-conscious steel industry, however, grants to large buyers concessions which are too large to be explained on cost grounds (Hearings, Pt. 20, *Iron and Steel Industry,* pp. 10788 *ff.*).

[33] *Technology in Our Economy,* monog. no. 22, p. 203.

[34] Large companies (and plants?) in general pay higher wages (*Hourly Earnings of Employees in Large and Small Enterprises,* monog. no. 14), and this differential is probably due in large part to the fact that large companies have more selective personnel policies.

[35] This point is also relevant to the studies of the effect of scale of operations on man-hours of labor per unit of output (*Technology in Our Economy,* monog. no. 22, pp. 200-02). The data on short-run labor inputs (*ibid.,* p. 97) are not relevant to the question of economies of scale; the validity and interpretation of these data are open to some question.

[36] Hearings, Pt. 26, *Iron and Steel Industry.*

[37] More accurately, they are a peculiar variant of the Marshallian short-run curves, for the effects of technological improvements and plant expansions are "removed" only to the extent that they manifest themselves in (linear) trends in the time series used.

[38] Hearings, Pt. 26, *Iron and Steel Industry,* p. 14034.

[39] See the testimony of Professor de Chazeau and Mr. Taitel (*ibid.,* pp. 13617 *ff.,* 13694 *ff.*); R. Ruggles, "The Concept of Linear Total Cost-Output Regressions," this

at their face value, two possible explanations seem possible. First, variations in output are effected by approximately equal changes in the employment of all factors; the coefficients of production are fixed. Second, the increase in the efficiency of utilization of fixed factors as output increases is approximately offset by decreasing efficiency of labor and other variable factors, an improbable situation.[40] If the first explanation is correct, as it undoubtedly is in many cases, then there should be few economies of scale, for expansion of plant will occur by way of adding more machines, not using larger ones.[41] These cost studies by implication support the conclusion of the F.T.C. study.

In the petroleum hearings, one witness submitted an estimate of operating costs for three sizes of modern gasoline refineries.[42] The salient figures are as follows:

Item	*Size of Refinery (barrels per day)* 5,000	15,000	60,000
Capital Investment	$2,000,000	$5,000,000	$16,000,000
Direct Operating Expense	.16	.11	.08
Total Cost of Processing a Barrel of Crude Oil	.337	.259	.201

The details of the cost analysis are unfortunately omitted,[43] so it is difficult to assess the significance of these data. Nevertheless the general method of securing costs for hypothetical plants of various sizes has several advantages over the customary statistical studies, and it is to be hoped that more such studies—with details—will become available.

The remainder of the T.N.E.C. material on costs may be passed over quickly. There are comments on the optimum size of plant in numerous industries,[44] but such observations are not very useful. The detailed evidence for the figures is not presented, and quantitative differences in

Review, Vol. XXXI (June, 1941), pp. 332-35; and my comments, this *Review*, Vol. XXX (March, 1940), pp. 401-02.

[40] If there is much specialized plant, the short-run marginal cost curve will be steep. If flexibility is built into the plant, the question turns on how the flexibility is attained. If it is secured by (*e.g.*) using numerous small machines rather than a few large ones, we are thrown back to the first explanation. See my "Production and Distribution in the Short Run," *Jour. of Pol. Economy*, Vol. XLVII (June, 1939), pp. 305-27.

[41] If the short-run marginal cost curve rises, no conclusion can be drawn respecting the shape of the long-run average cost curve.

[42] Hearings, Pt. 15, *Petroleum Industry*, pp. 8636 *ff.*, 8661 *ff.*

[43] For instance, the largest plant contains two "good-sized" combination skimming and cracking units (*ibid.*, p. 8351); in fact, each of these units "is about as large as we know how to build" (*ibid.*, p. 8352). Why are two units necessary?

[44] *E.g.*, a modern, semi-integrated steel plant costs $100,000,000 (*Technology in Our Economy*, monog. no. 22, p. 199), or anyway $40,000,000 (Hearings, Pt. 18, *Iron and Steel Industry*, p. 10410); a company producing 100,000 automobiles a year has no serious handicaps (Hearings, Pt. 21, *War and Prices*, pp. 11216 *ff.*); a distillery with a capacity of 1300 gallons a day is apparently efficient, especially on a farm (Hearings, Pt. 6, *Liquor Industry*, pp. 2543 *ff.*); etc.

costs of plants of different sizes are not considered although this is really the crucial question.

As with so many topics, therefore, the reader will find it easy to leave the T.N.E.C. publications with much the same ideas with which he approached them. With respect to economies of scale the writer has so fared: he retains the view that beyond a relatively modest scale of output the economies of large scale production are in general quantitatively unimportant.

IV—The Rôle of Government

The efforts of governments to repress competition may now be considered. The federally-financed T.N.E.C. spent considerable time on the familiar state and local restrictions on competition,[45] but passed rather quickly over the much more important part which has been and is being played by the federal government. In this essay, financed on a somewhat more modest scale by a state institution, the distribution of emphasis will be reversed and the meager contributions to the subject of federal intervention will be summarized. Seven cases will be considered.

1. *Foreign trade, tariffs.* Professor Cyril James instituted an investigation of the effects of tariffs on domestic competition.[46] The fundamental finding is that of 317 products whose concentration ratios (taken from monog. no. 27) exceed 75 per cent, 27.7 per cent by value would have lower prices if tariffs were reduced because "monopolistic elements" in domestic prices would be offset.[47] Unfortunately the critical information on which his results turn is not included in the monograph, so the validity of the findings cannot be assessed. It is also regrettable that products with low concentration ratios (*e.g.*, dairy products) were not included, for combinations of producers have also secured much assistance from the federal government.[48]

[45] In addition to state trade barriers (Hearings, Pt. 29. *Interstate Trade Barriers*), there is material on building codes (Hearings, Pt. 11, *Construction Industry*, pp. 5317 *ff.*), price-maintenance laws (*Problems of Small Business*, monog. no. 17, chap. 16; *Price Behavior and Business Policy*, monog. no. 1, Pt. 3; *Final Report*, pp. 141 *ff.*); milk markets (*Economic Standards of Government Price Control*, monog. no. 32, Pt. 2, chaps. 2-6); and oil conservation (*Control of the Petroleum Industry by Major Oil Companies*, monog. no. 39, chap. 3).

[46] *Industrial Concentration and Tariffs*, monog. no. 10.

[47] In a study of export policies of 76 companies, Milton Gilbert observed: "In many cases, however, approximately half in our sample, the protective tariff is of prime importance in the maintenance of a high degree of monopolistic competition or a monopoly position" (*Export Prices and Export Cartels*, monog. no. 6, p. 82).

[48] Some aspects of sugar and lumber are studied (*Industrial Concentration and Tariffs*, monog. no. 10, chaps. 6, 7).

The unsatisfactory report made by the F.T.C. on the Webb-Pomerene associations does not even allude to the possible tendency of these associations to restrict domestic competition.[49] This omission cannot be attributed to the lack of evidence of such a tendency.[50]

2. *Patents*. The subject of patents received a good deal of attention from the T.N.E.C., and it was the only case, so far as I know, in which at least minor legislative reforms have resulted from the work of the committee,[51] which also recommended a twenty-year limitation on patents from date of application, compulsory licensing, prohibition of restrictive licensing, and certain technical changes in administration.[52] In addition there were numerous suggestions from individuals, one of the most intriguing of which was Professor Walton Hamilton's proposal that patents of decreasing term be given for discoveries characterized by genius, professional competence, and mechanical ability.[53]

Disregarding matters of technical procedure and administration, on which I do not possess the mechanical ability to pass, two basic problems were posed: (1) the use of patents to evade the antitrust laws; and (2) the proper reward to be given to inventors. With respect to the first problem, the cartellization of the glass-container industry by the Hartford Empire Company was an eloquent example of an evil demanding correction,[54] and Professor Hamilton's useful survey of judicial decisions on this matter emphasizes the fact that the remedy must be legislative.[55] The case for limitation of restrictive licensing is surely irrefutable.

But the question of the proper reward to be given to inventors was not approached in useful terms. Almost every witness expressed his opinion as to whether patents were or were not necessary to stimulate invention, but these opinions would be of little value even if they had been uniform. (One witness seems to have summarized the prevailing attitude: "That 17 years seems to have worked out very well for a hundred years. Why change it?"[56]) The relevant question is a quantitative one: Will the social gains from a reduced patent term exceed the loss from discouragement of invention? The social gains flow from reduced monopoly: earlier use, lower prices, greater investment, etc.

[49] *Export Prices and Export Cartels (Webb-Pomerene Associations)*, monog. no. 6, Pt. 3.

[50] Hearings, Pt. 20, *Iron and Steel Industry*, pp. 10951 *ff.*; Hearings, Pt. 25, *Cartels*, pp. 13157 *f.*

[51] *Patents and Free Enterprise*, monog. no. 31, p. 146n.

[52] *Final Report*, pp. 36-37; also pp. 249-51. None of the basic proposals has been adopted.

[53] *Patents and Free Enterprises*, monog. no. 31, pp. 156-57.

[54] Hearings, Pt. 2, *Patents*.

[55] *Patents and Free Enterprise*, monog. no. 31.

[56] Hearings, Pt. 2, *Patents*, p. 322.

That a shorter term would lessen the researcher's incentive is probable (although not certain),[57] although one should keep in mind both the distinction between inventor and patentee and the possible alternative methods of stimulating technological progress.

A large part of the answer to this question, surely, would be provided by an examination of the amount of return on a selection of patents five, ten, fifteen and twenty years after the date of application, and some estimate of the gains from an earlier lapse of the patent. Similarly, the practicability of compulsory licensing might be examined through its hypothetical application to numerous patents and by consideration of detailed foreign experience with this technique.[58] As the situation now exists, each person has his own opinion, arrived at intuitively, as to the proper patent term, the feasibility of compulsory licensing, the net effects of patent pools, and similar problems. One of the most plausible of these judgments, that a seven- to ten-year patent term better combines equitable treatment of inventors, protection of society, and administrative simplicity, receives no consideration.

3. N.R.A. Even if the Blue Eagle had left no progeny, it would still be useful to view in retrospect the workings of government by trade association. Professor Clair Wilcox's concise summary of cartel-features of the codes is therefore very welcome.[59] But, of course, the progeny have been most numerous. In some cases (coal, trucking), special legislation has restored monopolistic arrangements. The more important effects, however, were to strengthen greatly the trade association movement, which had suffered reverses from 1930 to 1932,[60] and to increase the price-fixing activities of these and less formally organized groups of producers.[61] There is fragmentary evidence on the persistence of

[57] On the ground that additional rewards will not directly discourage anyone and will encourage some avaricious inventors. But the reduction of patent monopolies would lead to wider production of the patented object, and improvements or derivative ideas might emerge more rapidly.

[58] Since Mr. Coe was available, such studies should have been simple: "Mr. Coe. In the last 5 years of my service as Commissioner of Patents I have devoted myself to a careful study of almost every aspect of our patent system. This I have done not merely for my own information but with the purpose of increasing the usefulness of the system to the American people. In the course of this long and serious study I have utilized every available source of information." (Hearings, Pt. 3, *Patents*, p. 838). There is an illuminating dispute between Messrs. Coe and Arnold in Hearings, Pt. 31A, *Supplemental Data*, pp. 18467-89.

[59] See *Competition and Monopoly*, monog. no. 21, pp. 259-67; Hearings, Pt. 25, *Cartels*, pp. 13319 *ff.*; and *Final Report of the Executive Secretary*, pp. 98-101.

[60] *Trade Association Survey*, monog. no. 18, pp. 12 *ff.*, 369.

[61] In this connection it may be of interest to quote the testimony of Thurman Arnold: "May I interject this in the record with respect to the Department of Commerce report [*Trade Association Survey*, monog. no. 18], which says that trade associations are not violating the law? I don't believe that it is possible for anybody to know whether any association is violating the law or not without a grand-jury investigation. I would only say that the majority of trade associations against whom we have had substantial complaints

N.R.A. coöperation—for example, the iron ore company executives had apparently not yet heard in 1938 of the *Schechter* decision[62]—but no systematic study was made.

4. Agriculture. Of federally fostered monopolies, agriculture is surely one of the most important. The broad subject is discussed only by Dr. A. L. Meyers, and this discussion is brief and nonfactual.[63] The government program is held to be nonmonopolistic because maximum returns are not sought and because social considerations (favoring small farms, aid to sharecroppers) are given attention.[64] Surely both arguments are equally valid (or invalid) when applied to antichain store legislation, which is accorded less favorable treatment.[65] Later Dr. Meyers shifts ground and concedes that competitively-oriented criticisms of the agricultural programs are "theoretically sound," but falls back on the familiar argument that farmers must organize to combat industrial monopolies in order to receive (120 per cent of?) parity incomes.[66]

The development of federal price fixing in milk is reported in an informative, balanced essay by Professor W. C. Waite.[67] The early marketing agreements in interstate markets were dominated, and in large part administered, by local organizations of producers and distributors. Under the subsequent licensing scheme the distributors were left to care for themselves, and the interests of the producers—and, to an apparently infinitesimal extent, of consumers—became the concern of the Department of Agriculture. Certain improvements have been made in the marketing machinery,[68] but the major results have been an increase in milk prices (of 20 to 40 cents per hundredweight) and a strengthening of the powers of producer organizations, which, incidentally, possess veto powers over the Department of Agriculture's marketing orders.

5. Bituminous coal. The compulsory cartellization of the coal industry is an extremely important case of governmental intervention because of both the basic importance of the industry (which employs over half

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have been found to have been violating the law, and we have collected a large number of fines against them. As to the complaints which we haven't investigated, I don't think either the Department of Commerce knows, or we know, or anybody knows" (*Final Report,* p. 305).

[62] Hearings, Pt. 18, *Iron and Steel Industry,* pp. 10298 *ff.*

[63] *Agriculture and the National Economy,* monog. no. 23.

[64] *Ibid.,* pp. 14-15.

[65] *Ibid.,* p. 27.

[66] *Ibid.,* p. 40.

[67] *Economic Standards of Government Price Control,* monog. no. 32, Pt. II, chap. 1.

[68] *Ibid.,* pp. 74, 92.

a million laborers) and its probable use as a precedent. On the one hand, minimum prices are established primarily to protect union wage rates, and on the other hand, marketing associations are exempted from the antitrust laws. Unfortunately the only T.N.E.C. study of coal is restricted primarily to technical problems of price determination under the unusually cumbersome procedures dictated by the Bituminous Coal act of 1937.[69] This study dismisses competition—in considerable part because it is not "orderly" (rigid?)—in a page,[70] and indeed the authors recommend strengthening the cartel features by introduction of production controls, compulsory marketing associations, and regulation of substitute fuels.[71] For a critical appraisal of the workings of the Bituminous Coal act, other sources must be consulted.[72]

6. Labor Unions. The delicate topic of labor organizations, it need scarcely be said, was not submitted to close scrutiny by the T.N.E.C. In this respect it is interesting to note that the Industrial Commission, working at a time (1901) when the question was somewhat less important, devoted more attention to labor than did the T.N.E.C. Hearings.[73] It is surely indisputable that New Deal encouragement has been the greatest factor in the recent ascendancy of labor unions, so it is most appropriate to discuss the effects of union policies on competition at this point. The problem can be subdivided as follows: (1) the effects of labor unions on competition among employers; (2) policies of unions in the labor markets; and (3) the direct prevention of competition by the federal government.

Information concerning the effects of unions on competition among employers is virtually nonexistent. Thurman Arnold cites a case or two where unions have suppressed small concerns to "stabilize" an industry.[74] There is also evidence of efforts of drivers' unions to prevent competition in milk marketing,[75] of the important part played by

[69] E. B. Gordon and W. Y. Webb, *Price Fixing in the Bituminous Coal Industry,* monog. no. 32, Pt. III. But consult also the sections in Professor Donald Wallace's summary (*ibid.,* Pt. IV, chaps. 6, 8, 11).

[70] *Ibid.,* p. 320.

[71] *Ibid.,* p. 328.

[72] See the excellent essay by E. V. Rostow, "Bituminous Coal and the Public Interest," *Yale Law Jour.,* Vol. 50 (February, 1941), pp. 543-94.

[73] For a summary, see M. Atkinson, "Trusts and Trade Unions," *Pol. Sci. Quart.,* Vol. XIX (1904), pp. 193-223.

[74] For evidence on the first two points of our subdivision, see his memorandum, *Final Report,* pp. 164 *ff.*; also Corwin Edwards, "Public Policy toward Restraints of Trade by Labor Unions; and Economic Appraisal," *Am. Econ. Rev.,* Suppl., Vol. XXXII (March 1942), pp. 432-48. The reactions of the American Federation of Labor and a railroad brotherhood of Arnold's statement were obvious but depressing; Corwin Edward's commentary is excellent (Hearings, Pt. 31A, *Supplemental Data,* pp. 18168-94).

[75] Hearings, Pt. 7, *Milk Industry, Poultry Industry,* pp. 2944 *ff.,* 3223 *f.*

unions in the New York poultry racket,[76] and of the enforcement of monopolistic agreements in the building industry.[77]

The marketing policies of labor unions also receive practically no consideration. Trifling attention is paid to rackets—the Chicago (!) witness who used this word was reprimanded by members of the T.N.E.C.[78] But what is more important, the effects of wage rates, hours, and output policies of unions on prices, investments, and employment were not explored. The one monograph dealing with this subject is concerned only with the situation in individual firms, and questions of general effects or policies are not raised.[79] In the study of bituminous coal pricing the problem is dismissed as follows: "Fears have been expressed that the public has no protection, under such a plan [of legally enforceable minimum prices], against excessive wage scales which under favorable conditions might conceivably [*sic!*] be forced through perfectly legal negotiations. These authors can hardly picture labor forcing unreasonable wage levels upon an industry whose prices would shoot upward, when as a result the industry upon which they depend for their livelihood would be faced by probable losses of tonnage and employment because more consumers would be driven to lower-priced competing fuels."[80] Aside from the observable falsity of this attitude, it might be useful to mention that the "reasonableness" of a wage structure should be judged in terms of economic effects as well as in terms of the niceness of everyone receiving good incomes.

The final point, positive intervention in labor markets by the government, is completely omitted. There is no reference of importance to the Fair Labor Standards act or to the Walsh-Healey act.

7. War. Although the T.N.E.C. lasted more than fifteen months after the outbreak of the European war and held a set of hearings on *War and Prices*,[81] the effects of war on competition were not considered. Nevertheless, the current interest in the topic is sufficient to justify a few comments. It is certain that competition diminishes sharply during a major war, and it is probable that competition does not regain its former position after the demobilization. The following are a few bases for this generalization.

First, those in charge of procurement, rationing, and price fixing find it much easier to deal with associations of producers than individually with numerous small producers, so organizations of producers are

[76] *Ibid.*, pp. 2869 *ff.*

[77] Hearings, Pt. 11, *Construction Industry*, pp. 5007 *ff.*; *Toward More Housing*, monog. no. 8, pp. 54 *f.*, 134.

[78] Hearings, Pt. 11, *Construction Industry*, pp. 5247 *ff.*

[79] *Industrial Wage Rates, Labor Costs and Price Policies*, monog. no. 5.

[80] *Economic Standards of Government Price Control*, monog. no. 32, p. 327.

[81] Hearings, Pt. 21, *War and Prices.*

fostered. During World War I the number of trade associations increased greatly.[82] There is likely to be virtual suspension of antitrust laws in the ubiquitous defense industries.[83]

Second, small concerns are less likely to secure war orders because of inadequate information of government needs, aversion of procurement officials to dealing with small orders, and resistance of large companies (for a variety of reasons) to subcontracting. Moreover, in the great flood of administrative decisions (*e.g.*, the granting of 75,000 priority ratings a month) the small concern, lacking a skilled representative or "influence," will not always fare so well. The situation is pithily described before the Truman Committee Hearings by Senator Connally: "You say anything to the Army and Navy about powder and the first thing they say is 'du Pont. We will get du Pont to do that.' "[84]

Third, the production of civilian goods may be concentrated in a few plants for a variety of reasons, not all of which are convincing. The British have already employed this method extensively, especially in the textile industry,[85] and certain characteristics of the scheme have already been introduced in the United States.[86]

[82] *Trade Association Survey,* monog. no. 18, p. 369.

[83] The signs already point in this direction. For example, the antitrust suit against the leading oil companies which was announced July 27, 1940, was immediately referred to the National Defense Advisory Commission, apparently at the latter's request. The commission reported unfavorably on the most important part of the government's suit, the attempt to divorce ownership of transportation facilities. The reason given by the commission, and (perforce) accepted by Attorney General Jackson, was that outside capital was unwilling to take over the pipe lines (which earned only 10 to 30 per cent on investment, depending upon the investment figures used). At the time it was also argued by many that new pipe lines construction, later prohibited by S.P.A.B., would be discouraged. (See *New York Times,* July 27, August 1, September 29, 1940.) Since the above was written, it has become the explicit policy of the Administration to suspend antitrust prosecutions when, in the opinion of the Secretary of War or the Secretary of the Navy, such prosecution would impair war production. (See *New York Times,* March 29, 1942.)

[84] *Investigation of the National Defense Program,* Hearing before Truman Committee, Pt. 6, 77th Cong., 1st sess. [Washington, Supt. Docs., 1942], pp. 1639-40. This volume contains illuminating testimony of several small producers. See also the Truman Committee's *Report Concerning Priorities and the Utilization of Existing Manufacturing Facilites,* Pt. 3, 77th Cong., 1st sess., S. Rept. 480.

[85] See "Concentration of Industry" and "Methods of Concentration," *Economist,* March 8 and April 5, 1941. For a summary of the Board of Trade's very confused explanation of the policy, see "British Concentration of Production," *Foreign Commerce Weekly,* June 14, 1941. One purpose of the policy, to make more efficient use of resources even in the short run, may be commented upon. Let $g(x_1)$ and $f(x_2)$ be the total cost functions of two plants. Then for minimum costs of production for any output $k = x_1 + x_2$, $g(x_1) + f(x_2) = g(x_1) + f(k - x_1)$ must be a minimum, i.e., $g'(x_1) = f'(x_2)$,—marginal cost should be equal in the two plants. The sufficiency condition is

$$g''(x_1) + f''(x_2) > 0.$$

From this condition it appears that in only two cases is it more efficient to concentrate production in one plant: (i) when both plants have falling marginal cost curves, and (ii) when the marginal cost curve of one plant falls more rapidly than that of the other plant

Finally, there are important post-war forces operating to reduce competition. The war's legacy of overexpanded or "sick" industries, to judge from the cases of agriculture and coal, will not lack for governmental assistance which may well take the form of compulsory cartellization. The wave of nationalism may bring into existence new barriers to international trade.

A review of this impressive although incomplete list leads, I believe, unambiguously to the conclusion that the major factor in the decline of competition has been governmental support of monopoly. This conclusion is reinforced when one considers the negative rôles of government, such as the anaemic administration of the antitrust laws until recent times, the weakness of control over corporate charters and activities, and the free play long allowed to the security-market promoters. It must be left to the reader to find a pleasant interpretation of this fact.

V—Other Bases of Monopoly

It would be easy to extend the list of bases of monopoly illustrated by T.N.E.C. material. Among the familiar bases on which evidence is provided, one may mention the ownership of natural resources and transportation facilities;[87] acquisition of assets of rival concerns;[88] the now declining rôle played by the investment bankers;[89] participation in international agreements restricting competition here and abroad;[90] and cultivation of consumer allegiance to particular brands, the allegiance being based proximately on extensive advertising and ultimately on consumers' ignorance of the technical properties of the commodities they buy.[91] But these may be passed over, for the T.N.E.C. follows well-worn paths.

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rises. Neither condition seems very realistic. (I am indebted to Mr. Herbert Stein on this point.)

[86] See the sulphite pulp allocation plan, *Victory*, January 13, 1942.

[87] On sulphur, see Hearings, Pt. 5, *Monopolistic Practices in Industries, Development of the Beryllium Industry*, pp. 1987 *ff.*; on iron ore, Hearings, Pt. 18, *Iron and Steel Industry;* on pipe lines, Hearings, Pts. 14 and 15, *Petroleum Industry*.

[88] A summary of such cases (which are not subject to section 7 of the Clayton act if assets, and not stock, are acquired), see Hearings, Pt. 5A, *Federal Trade Commission Report on Monopolistic Practices in Industries*, pp. 2361-86; also *Relative Efficiency*, monog. no. 13, Appendix C.

[89] For example, monog. no. 13, Appendix B.

[90] See Hearings, Pt. 5, *Monopolistic Practices*, pp. 1988 *ff.*; Hearings, Pt. 25, *Cartels*.

[91] There is a very useful compilation of information on the phenomena of "monopolistic competition" in *Price Behavior and Business Policy*, monog. no. 1, an exhaustive summary of the research on consumer standards by governmental agencies in *Consumer Standards*, monog. no. 24, and a miscellany of testimony in Hearings, Pt. 8, *Problems of the Consumer*. No general theoretical analysis is given, however, nor are recommendations for social policy explicit.

It may be worth while, however, to consider a less publicized basis of monopoly: monopoly. There is a tendency for monopoly to expand vertically to both market outlets and supply sources and horizontally into the markets for other products. Each of these phenomena will be considered briefly.

The retail outlets for monopolistically produced commodities are frequently cartellized. The situation appears to be most acute when there are a few producers of close substitutes: in their endeavor to secure outlets without resort to price competition, the producers establish their own outlets or offer many special favors to exclusive dealers. This development is well illustrated by the petroleum industry. The major companies have entered retailing on an extensive scale,[92] and in addition they have used wider retail margins, free equipment, free painting, credit card privileges, and threats of erecting competing stations in order to persuade independent dealers to handle only one major company's line of products.[93] There seems to be no doubt but that the competitive position of the smaller refineries has been seriously impaired by these practices. It is also probable that the resultant wastes of "excess capacity" have been great, but these wastes were not rigorously substantiated, let alone measured.[94] The situation in motion picture theatres is similar in many respects.[95]

The monopolistic powers in one product line may be used to coerce acceptance of additional products. Perhaps the most blatant instance was the large meat-packing company which secured widespread adoption of a brand of railroad draft gears in which it had a financial interest by promise or threat of diversion of its patronage.[96] A more pedestrian example is block-booking of motion pictures.[97]

[92] In 1935, eighteen major companies owned 38 per cent of the retail stations. The rise of the "Iowa Plan" of leasing the stations has blurred the distinction between ownership and exclusive contractual relationships with independent dealers.

[93] See the Hearings, Pt. 15A, *Petroleum Industry, passim;* Pt. 16, *Petroleum Industry,* pp. 8907 *ff.*, 9137 *ff.*, 9171 *ff.*; and Pt. 17, *Petroleum Industry,* pp. 9744 *ff.* The legalization of minimum retail margins by state fair-trade practice acts is not discussed. In addition there is evidence of collusion among retailers (Hearings, Pt. 16, *Petroleum Industry,* pp. 9031 *ff.*). An official of the retailers' trade association vehemently expressed his nostalgia for the good old days: "We had a code for the petroleum industry and for the people generally; it was the finest thing in the world, and the little opposition that we had to the Petroleum Code came from the dirty, lousy chiselers who were gypping the public in many ways" (Hearings, Pt. 17, *Petroleum Industry,* p. 9448).

[94] Mr. Swensrud of Standard Oil of Ohio argued that the number of filling stations is not excessive (Hearings, Pt. 15, *Petroleum Industry,* pp. 8678 *ff.*). His arguments do not appear to me to be wholly convincing but they deserve a detailed analysis they did not receive.

[95] See *The Motion Picture Industry,* monog. no. 43.

[96] Hearings, Pt. 5A, *Federal Trade Commission Report on Monopolistic Practices in Industries,* p. 2307.

[97] *Motion Picture Industry—Pattern of Control,* monog. no. 43, pp. 23 *ff.*

Finally, a very important example of the self-propagation of monopoly is vertical integration. Of course when vertical integration rests on technological economies—the stock example is the hot strip mill—the question of monopoly is usually irrelevant.[98] Such economies are historical: technological progress merely leads to a redefinition of the scope of the production process. But it is arguable that most of the important advantages of vertical integration partake of a monopolistic nature.[99]

Two typical causes of vertical integration will illustrate the monopolistic elements which are present. First, if the markets for raw materials or finished products are monopolized or threatened by monopolization, integration becomes a defensive weapon. Thus, the head of a major oil company pointed out the need for backward integration to combat monopolies,[100] and the head of the Beryllium Corporation saw the need for entering the fabricating field because the fabricating company did not wish to disturb its phosphor bronze market.[101] Second, integration on a large scale permits the manipulation of margins of various stages of the production process and hence endows the firm with considerable control over the competitive position of non-integrated rivals. The Hearings on iron ore, semi-fabricated steel, and the petroleum industry pay much attention to the topic, but as usual the witnesses were not questioned in sufficient detail or with sufficient persistence to establish definite conclusions.[102]

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[98] If the new process is subject to substantial economies of scale, of course, competition will be reduced at that stage and this decline may be communicated through vertical integration to other stages.

[99] The readers of this *Review* will not desire a repetition of the familiar argument that elimination of "middlemen's" profits and the like are illusory gains if the markets for supplies are competitively organized, although of course this point appears in the T.N.E.C. (*e.g.*, Hearings, Pt. 17, *Petroleum Industry,* p. 9749). Managerial economies, one would expect, should normally dictate horizontal, and not vertical, integration.

[100] Hearings, Pt. 14, *Petroleum Industry,* p. 7168. The argument was used to support the thesis that integration leads to competition, which is not unplausible in the light of the witness's concept of competition (*i.e.*, oligopoly).

[101] Hearings, Pt. 5, *Monopolistic Practices in Industries,* p. 2153.

[102] On iron ore—where the witness argued that an integrated concern is merely the algebraic sum of two independent firms—see Hearings, Pt. 18, *Iron and Steel Industry,* pp. 10360 *ff.;* on semi-fabricated steel, see Hearings, Pt. 20, *Iron and Steel Industry,* pp. 10747 *ff.;* numerous charges with respect to manipulation of margins are made against the petroleum industry in monog. no. 39 (*Control of the Petroleum Industry by Major Oil Companies*) but the charges are most inadequately documented.

PRICE AND PRODUCTION POLICIES

By M. M. BOBER

The material of this essay is presented under three heads: first, the economic theory contained in the studies of the Temporary National Economic Committee in so far as it bears on price and production policies; second, such policies in certain specific industries; and third, price and production in the field of retail distribution. That this classification has faults is admitted. It is difficult, for instance, to draw the line between theory and practice; and it may be questioned why the basing point system is placed with the steel industry and not as a problem in theory. Likewise, the discussion of some of the selected industries includes their retailing practices, instead of segregating these practices under the third topic. Nevertheless, this particular organization seems to be a convenient way of blocking out the discussion of a far-flung investigation, and it is hoped that the reader will perceive the convenience as he proceeds.

I—Economic Theory

Viewpoints of the business man. It may be of interest to touch on some of the theoretical views voiced by the business representatives at the Hearings. The business man would not openly be drawn into a discussion of a theoretical flavor, invariably claiming that he is a practical man of experience and facts. Consciously or unconsciously, however, business witnesses gave expression to theoretical opinions.

The changes are rung on the following maxims. Each business is competitive because it is subject to the law of supply and demand, and if a high price is charged, the order is lost to a competitor. The consumer makes the final choice, and there is nothing for the producer to do but to strive to please. No business man will sit idly by and let a competitor get the orders; he will cut the price and get his share. A reasonable price is one which suffices to maintain the properties, cover expenses, carry on research for improving the product, and provide a fair return to the owners of the business, the stockholders. High prices are always attributed to the high cost of materials, to heavy taxes, and especially to wage advances. Poor or modest profits are a demonstration that the price is reasonable. As the volume of production rises, unit costs decline; and in a depression, unit costs rise owing to lower capacity and a higher overhead cost per unit. Advertising creates a mass market, with mass production and lower costs and prices. In

prosperity such prices are to be charged as will make up for the scant profits of lean years. Chaotic competition is destructive and is to be avoided; "stabilization" is to be sought after, above all.

The business man's concept of competition is interesting. It seems to stand less for rivalry and more for coöperation or for the exigencies of doing business in a given set of circumstances. A small concern manufacturing beryllium copper admits that it follows the price published by a leading company, and in a written statement to the committee declares that it "has no alternative except to meet such published prices in order to compete."[1] The negotiations between the largest seller of tinplate (the U.S. Steel Corporation) and the major buyer (American Can Co.) result in a competitive price, in the opinion of high officials in the steel industry; and a smaller firm selling at this price claims to be competing.[2] A trade association reports to the Federal Trade Commission that its objective is "the preservation of competition in its original sense of 'to strive together for common interests.' "[3]

Competition and monopoly. The theoretical discussions by economists are generally confined to elementary problems. The concept of competition is presented in terms made familiar in the last decade; and there is brief mention of oligopoly and the usual exposition of product differentiation. Monopoly is simply referred to as collusion among firms or as the concentration of the supply in one firm; and only once or twice is there reference to measures of the degree of monopoly power.[4] Dr. Clair Wilcox gives in brief paragraphs concise descriptions of nearly a dozen types of competition, such as perfect, pure, imperfect, monopolistic, predatory, potential, cutthroat competition. His inclusion of oligopoly as a form of competition stands, however, without justification. Oligopoly is characterized by him as a situation in which each of the few sellers of a product takes into consideration the price reactions of the other sellers: there is no mention of possible competitive behavior. The resulting price of oligopoly so described will be a monopoly price; and since Dr. Wilcox recognizes cases of monopoly, with monopoly prices, oligopoly should have been

[1] *Investigation of Concentration of Economic Power*, Hearings before Temporary National Economic Committee, February, March, May 1939, on Pub. Res. 113 (75th Cong.), Pt. 5, *Monopolistic Practices in Industries, Development of the Beryllium Industry* (Washington, Supt. Docs., 1939), pp. 2090, 2285.

[2] Hearings, Pt. 19, *Iron and Steel Industry*, pp. 10625-26, 10681.

[3] C. A. Pearce, *Trade Association Survey*, T.N.E.C. monog. no. 18, (Washington, Supt. Docs., 1940), p. 47.

[4] See, *e.g.*, *Price Behavior and Business Policy*, monog. no. 1, Pt. 1, chap. 1; *Export Prices and Export Cartels*, monog. no. 6, pp. 74-80; *The Structure of Industry*, monog. no. 27, pp. 407-08.

classed as a type of monopoly.[5] There is the customary nonconformity in the use of terms. For example, perfect competition is used at times when pure competition is meant, inasmuch as the definition refers to a homogeneous commodity and many sellers, and without mention of the absence of friction.[6]

Dr. A. C. Hoffman presents two problems not commonly taken up in an elementary discussion. One is a diagrammatic exposition of price policy in an industry of one or a few large firms and many small ones.[7] To each small firm the demand for its product is almost perfectly elastic, but the dominant firm or firms, by varying the output, can affect the price and assume the rôle of price leadership. In their effort to maximize profits as oligopolists, the dominant firms must, however, take into consideration the production response of the small firms to a high price set for the article. The more elastic the supply of the small firms, or the easier the entry, the more are the large firms apt to lose part of their market if the maximization of their profits entails a high price.

The other problem deals with bilateral monopoly,[8] exemplified when both the seller and the buyer are monopolists—the manufacturer selling to the retailer, the owner of raw materials selling to the manufacturer, etc. Dr. Hoffman is unaware that this problem is known in economic literature, and has been examined by Cournot, Edgeworth, Pigou, Wicksell, Bowley, Schneider, and others.[9] However, he deserves credit for recreating independently essential phases of a complicated analysis.

The theory has several aspects and the solutions depend on the assumptions. Dr. Hoffman considers three cases. One, the seller, a manufacturer, sets the price, and the buyer, the retailer, adjusts the quantity. The seller would begin by setting a price calculated to maximize his profits; and if the second monopolist would buy all that the seller would like to sell at the set price, the second monopolist (the retailer) would, with a given demand curve by the consumer, receive a margin merely sufficient to cover the cost of his services. In other words, the first monopolist (the manufacturer) would alone reap the monopoly profit. Accordingly the second monopolist, to obtain some monopoly advantage by enhancing the consumer price above the price which the first monopolist had in view, will purchase less than the first

[5] *Competition and Monopoly in American Industry,* monog. no. 21, pp. 5, 9-10.

[6] See, *e.g., Large-Scale Organization in the Food Industries,* monog. no. 35, p. 79.

[7] *Ibid.,* pp. 81-84. (For some of the literature on the subject see G. J. Stigler, "Notes on the Theory of Duopoly," *Jour. of Pol. Econ.,* Vol. XLVIII (1940), p. 522 n. 2).

[8] *Ibid.,* pp. 84, 161-65.

[9] See, *e.g.,* E. Schneider, *Reine Theorie monopolistischer Wirtschaftsformen* (Tübingen, 1932), chap. 2.

monopolist is ready to sell for the maximization of his profits. Worsened by this move, the first monopolist will lower the price to induce the second monopolist to buy more. Marginal cost and marginal revenue are the foci of consideration for both monopolists. The conclusion is that the jockeying will result in a higher price to the consumer and more restricted production than would rule in the familiar cases of one monopolist in a market.

The second case taken up by Dr. Hoffman assumes that the buyer (the second monopolist) sets the price, and the seller adjusts the quantity. The analysis and the conclusions are similar to those of the first case. The third case, briefly mentioned early in the discussion, assumes collusion between the two monopolists on an agreed basis of sharing the profits. Obviously, in this case, the price and the volume of production will behave in the same manner as with a single monopolist. It is noteworthy that, without the use of marginal revenue and marginal cost tools, Bowley offers a somewhat similar approach.[10]

Rigid and flexible prices. The controversy over inflexible prices receives adequate treatment in a well thought-out chapter by Dr. Saul Nelson.[11] He steers a cautious course between the thesis which sees competition in flexible prices and monopoly policy in rigid prices, on the one hand, and the view, on the other hand, which tries to explain price sensitiveness wholly in terms of the market setting. He sees some truth in both but perceives that careful analysis forbids firm generalizations. As a very general proposition, prices are flexible when they are market-determined, that is, competitive. Likewise very rigid prices may point to the presence of monopoly in the traditional or antitrust law sense, when the commodities affected are standardized, or they may imply product differentiation or other aspects of non-price competition, if the products involved are not standardized (pp. 15, 32, 37). But account must also be taken of the specific market situation: *e.g.*, an unchanged price for an article of improved quality is not to be termed inflexible (pp. 27-28).

A study of 111 commodities (p. 38) for 1929-33 discourages a sharp division between categories of goods of small price declines in recession and greatly curtailed production and those of sharp price declines and small declines in production. For durable goods the coefficient of correlation between price and production declines is only —.12, although for nondurable goods it is —.44. There is, however, a broad tendency for small drops in price to be associated with appreciable curtailment of production; and there is a "marked tendency" for such an association as we move toward goods of increasing durability. But we are cautioned

[10] A. L. Bowley, "Bilateral Monopoly," *Econ. Jour.*, Vol. XXXVII (1928), pp. 651-59.

[11] *Price Behavior and Business Policy*, monog. no. 1, Pt. 1, chap. 2.

against postulating a causal connection between such price and production declines: it should not necessarily be inferred that production dropped considerably because the price was not brought down sufficiently. "It happens," says Dr. Nelson, "that the severest price declines during the depression occurred in precisely those industries which produced the most urgent necessities of life, while the smallest declines were to be found among those commodities whose purchase could best be deferred" (p. 40). Necessities would be bought in large quantities even if their prices were but slightly reduced in a depression; and postponable commodities would suffer a great drop in sales even at much lower prices.

It must also be realized, Dr. Nelson insists, that the emphasis on price declines in a depression must extend beyond commodities to such items as rent, wages, interest rates on mortgages, public utility rates, professional fees, and taxes (p. 13). A fall in commodity prices but not in these other particulars may express a distortion in the price patterns as injurious to the economy as the concurrence of flexible and rigid prices for commodities alone (p. 50). He makes the interesting observation that a reduction in prices and charges throughout the economy may come to reflect a settled lower level of incomes, costs, employment and output—without the stimulus to recovery which some are in the habit of finding in reduced prices (pp. 42-43).

At each step statistical findings are presented as illustrations. Fourteen measures of price flexibility, 11 of them developed for this study, were applied to the 784 price series of the B.L.S. index, to test various aspects of flexibility or rigidity during various periods of time, and the results are presented in great detail.[12]

There is a measure of agreement among the investigators for the committee on this subject. Dr. Hoffman is not ready to consider monopoly exclusively responsible for insensitive prices, holding that the preponderance of overhead or variable costs is of paramount significance.[13] Dr. W. F. Crowder, on the basis of an elaborate statistical investigation, comes to the definite conclusion that price and production behavior can best be related to the nature of the particular product and its market and not to the degree of concentration of production.[14] Of course concentration of production is not necessarily identified with aspects of monopoly behavior. Dr. Wilcox alone seems to incline to Dr. Gardiner Means's thesis. After a brief summary of the statistical studies on the subject and of the arguments on both sides, he concludes

[12] *Ibid.*, Pt. 1, Appendix 1.

[13] *Large-Scale Organization in the Food Industries*, monog. no. 35, pp. 113 n. 2, 118; *cf.* p. 71.

[14] *The Structure of Industry*, monog. no. 27, pp. 402-06, 411.

that rigid prices in an industry facing a falling demand and mounting unemployment can only betoken monopolistic behavior.[15]

Nonprice competition. There is a long chapter on this topic.[16] Skeptical about the frequently voiced generalization that competition is in progressive decline, the treatment underlines the conception that there is a redirection of the channels of competition from price to other factors, so that in many sectors, if not generally, competitive rivalry still prevails but with a different focus. The reasons for the trend away from price competition are found in technological progress precipitating the proliferation of varieties and subvarieties of goods, in the distaste of the business man for rivalry in terms of price, in the pressure of the so-called "fair trade" and "unfair practices" laws, and in a changed market structure. The chief avenues of nonprice competition run along quality, brands, service, guarantees, price-lines (to be discussed under retailing), and the like. There is an evaluation of the growing importance of this type of competition in its implications for price policy, the complication of consumers' choices, and social policy. There is no analysis of the impact on the scale of production, costs, monopoly elements, and investment. The chapter is more informational than analytical.

Wage rates and price. An interesting statistical investigation is offered which throws light on the relation between price policy and wage rates and labor costs.[17] Confined to two shoe companies, two paper companies, one cotton textile concern, and the International Harvester Company, and, moreover, to selected articles and over a short period, this study is limited in scope, but it tends to support theoretical discussion of short-run price determination. One must hesitate to translate the diverse facets of the exploration into clear-cut propositions, but the following conclusions of the pertinent parts may be outlined.

Despite the insistent emphasis of business men on high wages as the foundation of high prices, there is less causation between wage rates and labor costs on the one hand and the price of the product on the other than entrepreneurs realize. Price changes precede wage changes in recession and recovery alike (pp. 15-16). In the International Harvester Company, for instance, deliberations on price policy begin with costs as a frame of reference, but controlling consideration is given to a variety of general and specific market conditions so that cost becomes one of many factors (p. 84). For the whole period of 1929-37, changes in the market situation and costs other than the wage bill overshadowed labor costs in price considerations (p. 126).

[15] *Competition and Monopoly in American Industry,* monog. no. 21, pp. 306-07.

[16] *Ibid.,* Pt. 1, chap. 3.

[17] *Industrial Wage Rates, Labor Costs and Price Policies,* monog. no. 5.

In a depression the governing factor is the market setting—the falling demand, the degree of competition, etc.—and once a low price is established pressure follows to reduce labor and other costs. In recovery, costs are somewhat more prominent as a stimulus to rising prices, and wage increases accompany improved prices for the product (pp. 19, 88). If a firm is in a position of price leadership, or if it produces a uniquely differentiated article, more latitude prevails in the formulation of price policy, and then wages, and even costs generally, are more definitely subordinate as price determinants. However, in all cases wages affect profits and the cash position of a firm and are on this account of vital concern to a business, especially in a falling market (pp. 20-22, 40, 120).

In firms in which materials compose a major proportion of the expenditures and are flexible in price, the correspondence between the price of the product and total costs is close; but there should be no inference of a causal link from cost to price (pp. 16-17). In such an instance, as well as in the case where the prices of both the materials and the final product are formed in a competitive market, the profit margin will depend on overhead and labor costs. Accordingly, in a prolonged and severe depression, overhead costs will have a rôle in price policy: to reduce the overhead cost per unit of product by increasing the volume of production, a price will be instituted which will cover variable costs and contribute slightly to overhead costs. Equally, wages will be lowered to permit lower prices and larger volume (pp. 40-41, 50, 52-53).

In periods of rapid and wide industrial fluctuations overhead costs, a large factor, *e.g.*, in the International Harvester Company, have a prominent influence on unit costs. The decline of production in 1929-33 was reflected in rising unit costs, with the consequent pressure for economy in adjustable costs, such as those of labor and materials. The picture was different in these regards in the relative upswing of 1933-37 (pp. 121, 127). But even in these periods there was "lack of any close relationship between changes in season's labor and material costs and changes in prices" of agricultural implements, although company officials stressed rigid costs as one of the principal factors responsible for the failure to reduce prices and maintain production in the former period of 1929-33, and high costs for the advance in prices in the latter period of 1933-37 (70, 87, 89, 91).[18]

[18] Mention is to be made of an elaborate field study (*Export Prices and Export Cartels,* monog. no. 6, Pt. 1), defying summary, which compares export and domestic prices of specified products by anonymous firms. The analytical paragraphs break no new ground; but there is an abundance of examples of selling practices and an outline of the reasons offered by business men for quoting an export price equal to, or higher or lower than, the domestic price.

General observations. It is probably fair to state that the explicitly theoretical formulations touching on price and production policy solve no old problems and raise few new issues, but generally treat well the problem in hand, and with an abundance of factual and statistical illustrations. Certain important omissions must, however, be noted.

First, an investigation of this character needs to give formal and extended treatment to the questions of what constitutes a normal or desirable price pattern in the various segments of our economy; what constitutes a serious distortion in the price structure; and why a distortion deranges our economy, in view of the possible contention that, *e.g.*, with low prices in a given sector like agriculture, what Peter, the farmer, loses as a seller Paul, the city worker, gains as a buyer, and Paul has more money to spend on other goods, instead of Peter. These paramount questions receive only incidental consideration, by Dr. Nelson in his discussion of rigid prices and by Dr. D. H. Wallace in his noteworthy résumé of government regulation of certain industries.[19]

Second, because of the prevalence of price differentiation and non-price competition generally, advertising becomes a central problem in theory. Yet there is scant discussion of the effects of advertising on the scale of production, costs, investment, and prices.

Third, there is little or no analysis of such relevant problems as the components of cost and the behavior of costs in the firm and the industry; of the theory of oligopoly; and of the influence of commodity speculation on prices.

II—Selected Industries

When turning to the sketch of price and production policies in specific industries—construction, milk, oil, and steel—it is necessary to remember that the chief objective of the committee's investigations was the concentration of economic power, that all discussion was primarily oriented to this objective, and that aspects of price and production, far from finding a focus of their own, are auxiliary to the central purpose. One must not expect special studies of price and production in given periods of time and in given places, in relation to unique circumstances and market structures. Price and production behavior is, rather, embedded in a context of description of monopoly and competition; and this is more true of the milk and oil industries than of the construction and steel industries. The scrutiny of each industry seems to have its center of gravity in the proposition that the

[19] *Economic Standards of Government Price Control,* monog. no. 32, pp. 494-96, 500-04. See also *Technology in Our Economy,* monog. no. 22, pp. 190-94.

cause is monopoly and the cure is competition. This circumstance explains the tenor of the account that follows.

The construction industry. The construction industry[20] exhibits three related maladies. First, like all durable goods industries, it is expected to make its contribution to recovery with the termination of a recession; and yet in the revival of 1937 this industry notoriously lagged behind both in employment and in the dollar value of the product. In the peak of 1937 durable goods industries reached the level of employment of 1929, whereas the construction industry, as well as the industries preparing materials for construction, failed to reach such a level, varying from 65 per cent of the 1929 level for lumber millwork to 87 per cent of this level for plumbers' supplies.[21] Second, throughout the period of 1929-37, building materials were higher in price than either capital goods generally or the B.L.S. index of commodities,[22] thus contributing to the impairment of economic activity associated with marked dislocations in the price structures of the different segments of our economy.

Third, the residential house building industry is marked by a distressing disequilibrium between supply and demand. The volume of low priced housing in demand by the population obviously far exceeds the volume of high priced housing; nevertheless, the amount of building from year to year is remarkably small in the former class and remarkably large in the latter. Forty-eight per cent of the homes built in 1934 were valued at between $6,000 and $10,000, but only 15 per cent of city families could afford to rent or buy such houses; 48 per cent of city families can afford to buy or rent homes selling at $4,000 or less, but only 20 per cent of the houses built are in this category.[23] For the period of 1922-38, the volume of private house building traces a curve like that of the volume of high priced (over $750) automobiles sold, and not at all like the curve of low priced automobiles sold.[24] Stated generally, at prices which equilibrate supply and demand for the masses of the poor, the housing obtained is of demonstrably inadequate character. In the famous phrase, one-third of the nation is ill-housed.

Many are the factors responsible for these conditions, and the in-

[20] Hearings, Pt. 11, *Construction Industry; Toward More Housing*, monog. no. 8; *Geographical Differentials in Prices of Building Materials*, monog. no. 33; *Competition and Monopoly in American Industry*, monog. no. 21, pp. 287-89.

[21] Hearings, Pt. 11, *Construction Industry*, pp. 4936 *ff.*

[22] *Ibid.*, pp. 5232, 5447-51.

[23] *Ibid.*, pp. 4962, 5479; *cf.* p. 4983. See *ibid.*, the testimony of R. L. Davison, T. J. Kreps, and W. Thorp.

[24] *Ibid.*, p. 4985.

vestigations pay attention to heavy taxes, high interest rates in house finance, and inflated land values. Chief emphasis is given, however, especially by the economists who summarize the situation, to two circumstances: obsolete methods of production and monopolistic prices.[25] While the production of most building materials is characterized by modern methods, the actual construction of houses is largely reminiscent of the handicraft days. The building process involves numerous distinct parts and many independent crafts and retailing operations, often without the integrating management of an experienced entrepreneur: the building of many a "home" is supervised by the housewife. The small size of the enterprise, the general lack of technological improvements and standardization of materials, poor, uncoördinated management, the tradition-ridden and parochial attitude of the public and city governments alike, combine to stamp the house building industry as one of low productivity and high costs.[26]

The second circumstance is the almost complete subjection of the industry to varying degrees of monopoly power. Oligopolies and strong national trade associations in the supply of materials are paralleled by the local monopolies of contractors, dealers and labor, with high and rigid prices, wages and costs almost wherever one turns. There is, in addition, vigorous opposition, by labor and the small local business men alike, to labor saving devices, to innovation and experimentation, and to the enlargement of markets and the scale of production. The industry tends to support the affirmation that the monopolizing spirit is not the unique attribute of big business, but is to be found as well in the man in overalls and in the village tradesman.[27] Reinforcing the element of monopoly is the fact that a house, consisting of a multitude of parts and involving many classes of labor, reflects a joint demand. Accordingly the seller of any given part, or any group of laborers, may feel that a low price for the individual product or service, constituting but a small part of the cost of a house, will not have a stimulating effect on house building. The seller considers the demand for his product or labor very inelastic. No one agency will be induced to diminish the price in face of a declining demand unless all the agencies essential to the industry will simultaneously reduce their prices.

Some aspects of the price and production data for the industry deserve comment. For the period of 1929-38, charts show an inverse relationship between nonresidential construction and the "exchange

[25] *Ibid.*, testimony of T. J. Kreps and W. Thorp; *Toward More Housing*, monog. no. 8.

[26] *Toward More Housing*, monog. no. 8, pp. 61, 130, 133.

[27] *Ibid.*, pp. 134-35; Hearings, Pt. 11, *Construction Industry*, testimony of W. Thorp and T. Arnold.

value," or barter terms of trade, of iron and steel; and similarly between residential construction and the "exchange-value" of lumber and of brick and tile. Construction declines in volume as the value of structural materials rises, that is, as more goods have to be offered in exchange for materials.[28] The discussion of these charts at the Hearings suggests a causal connection between these two variables, clearly implying that if in a recession the prices of building materials and of capital goods in general fluctuated in accord with other prices, building and durable goods industries would play a prominent and initiating rôle in recovery, as was the case before the past two decades. However, we do not know enough about business cycles to accept this inference. More than one theory of the trade cycle suggests that the impulse to recovery will have to come from more directions than lower prices for capital goods.

A separate monograph[29] presents a very elaborate collection of figures for 37 building materials, from asphalt to white lead, in 50 cities, in every state, during the period from January 1935, to September 1939. Actual prices, wholesale and retail, and corresponding monthly price indices are offered for each of the nine geographical regions of the country. Only a few summarizing remarks can be given here. The most common types of geographical price structures used are the freight equalization, the multiple basing point, and the zone systems. The national trend of wholesale prices of these commodities was upward for the period, with a considerable rise in 1936-37. During any part of this period some commodities were not with the trend but remained stable or moved in the opposite direction. The retail prices of each article followed the trend of its wholesale prices, but the fluctuations were narrower. Of the regional trends, some conformed to the national curve, and others departed from it. In general, regions closer to the producing areas of certain articles enjoyed lower prices, while far-off regions showed the disadvantage of transportation costs. Thus the retail price of sand, gravel and crushed stone was consistently lower in New England and in the Rocky Mountain and Pacific regions than in other areas. For most articles, however, except, *e.g.*, fir doors, prices were high in these latter two regions and low in the Northeast. The wholesale prices of insulation board and plumbing fixtures exhibit, for carlot shipments, no geographical variation, since the practice is to allow full freight. Where, as in the case of lime, there is a wide geographical distribution of small plants, the pricing practices display no discernible pattern for the country. Where retail prices tended to be

[28] Hearings, Pt. 11, *Construction Industry*, pp. 5447-52.

[29] *Geographical Differentials in Prices of Building Materials*, monog. no. 33.

high, the margin to the retailer was high. This means that margins were high away from producing areas. Higher margins seem also to be associated with inflexible retail prices.

The investigations of this industry offer abundant new data on the prices of building materials, samples of the costs of building operations and their components, figures on wage rates in building trades, and statistical illustrations of the disequilibrium between the supply and demand for housing. There is little or no discussion of such topics as the so-called long cycles in the industry; the evidence that building anticipates a recession; the effects of war on building; and the fluctuations in and the unique problems of the construction industry aside from city housing, *e.g.*, activity in the field of public utilities, factory construction, or rural building. It is worth noting that, while the T.N.E.C. studies establish that labor costs constitute a considerable proportion of the total costs of construction, there is a disposition to tone down the effect of monopolistic practices of labor on building costs.

The milk industry. In the milk industry, while the two leading companies, the National Dairy Products Corporation and the Borden Company, do not control over 12 and 8 per cent, respectively, of the country's fluid milk not consumed on the farm, in many cities 4 or 5 large distributors handle from nearly 60 to 90 per cent of it. There is no evidence of price competition among the oligopolies, but not a little evidence of price setting and of higher prices than those charged by small independents.[30]

Milk sold to the distributors and processors is not treated as a homogeneous product. Class I milk is bottled milk used as a beverage; it needs greater care and brings a higher price to the farmer. Class II, and further classifications, represent milk used for dairy products, like fluid cream, butter, cheese, ice cream, and condensed milk: it is commonly referred to as surplus milk.[31] Under competitive conditions all the milk would sell at a price in accordance with its marginal use; but both producer and distributor, having some degree of monopoly advantage, prefer to protect the price of fluid milk at a comparatively high level and divert the "surplus" milk at lower prices to manufactured dairy products.

The method of distribution to the consumer is a bone of contention. The distributing companies—and truckmen's unions—prefer the daily doorstep delivery, in the opinion that it assures a large and steady demand, and that the housewife will often neglect to buy milk if she has to go for it to the store or depot. Such delivery entails inevitable waste. A study of the situation in Milwaukee for March 16, 1934,

[30] Hearings, Pt. 7, *Milk Industry*, pp. 2763, 2851, 3137, 3196-97, 3202-04, 3221.

[31] *Ibid.*, pp. 2960, 2965.

revealed that in 1,020 blocks an average of 6.8 concerns delivered milk in a block. In one extreme case, 17 concerns served one block. Nearly 1,000 individual premises had "duplication of delivery."[32]

The price of milk to the consumer stood high and rigid, even during the depression of the 1930's. But the farmer's share of each dollar spent on dairy products declined from 52 cents in 1923, which is generally taken to mark the beginning of the growth of the large processing and distributing companies, to 35 cents in 1933; and the processor-distributor's share rose correspondingly.[33] Whether, and to what extent, this represents exploitation of the farmer by the distributor cannot be judged without an analysis of the supplies of milk and of the costs of processing and marketing in this period; but such data are not presented. The price paid the farmer and the margin secured by the distributor are not necessarily at the expense of each other. A large supply of milk may depress the price to the farmer; while rising costs of processing and marketing may simultaneously induce high margins to the seller of the finished product. In fact, a large supply of milk may enhance the demand for the services of the distributor. The complaint is voiced that the large dairy companies are especially interested in pushing the much advertised and differentiated manufactured milk products, like cheese and canned milk, and for these goods, although they are inferior as a food to milk, the market has grown and the price has declined.[34]

Arrays of figures are presented here and there to indicate the price behavior of fluid milk in various towns and at various times. Unfortunately, the significance of the data is considerably diminished in view of the lack of parallel studies of costs in these localities and of the various other aspects of the respective market patterns.[35]

Some of the government experts seem to be impressed by the experience of an independent dealer in Detroit[36] and by studies in Milwaukee, both indicating that milk can be sold at 6 cents to 8 cents a quart at depots on the cash-and-carry basis. Indeed, while some of the experts are content with the suggestion that a vigorous milk industry is contingent upon the restoration of competitive conditions therein, one of them, Dr. F. C. Howe, sees a definite panacea in the depot method of distributing milk.[37] He is of the opinion that a "free competitive system" would "automatically" result if "milk flowed

[32] *Ibid.*, p. 2784.

[33] *Ibid.*, p. 2800.

[34] *Ibid.*, pp. 2791, 3029.

[35] *Ibid.*, pp. 3190-93.

[36] *Ibid.*, testimony of G. A. Johnson.

[37] *Ibid.*, pp. 2814-32, 3134.

freely through the pasteurization plant at a custom or tolling charge determined by cost and was available to all buyers."

It is difficult to share such optimism. We are not told about the agency that will negotiate with the farmers for the supply of milk for the depot, what assurance there is that this agency will not strive for large profits, and how the farmers will dispose of their surplus milk. We need to know the relative elasticities of demand for fluid milk and for the varieties of dairy products if we are to gauge the effect of a price change in any one class of milk upon the competition, or the diversion, from the other classes, or upon the incomes of the farmers. Account has also to be taken of the cost of building and managing pasteurization plants and properly located depots in a large city, of scientific experimentation and educational advertising, and of doorstep delivery. Without such studies it is difficult to estimate the degree of power exercised by the bilateral monopoly (*i.e.,* the customary bargaining between the farmers' coöperatives and the large distributors) in the industry, the possible reductions in the price of milk and the concomitant rise in the consumption of it, and, generally, the repercussions of alternative methods of distributing milk.

Since 1933 the milk industry has joined the ranks of enterprises regulated by federal or state authorities, and the experience, treated in a separate study[38] which deals also with the regulation of the more commonly recognized "public utilities" in three sample states and of bituminous coal, gives some idea of the price and production policies of regulatory bodies. The inquiry is detailed and scholarly, and Dr. D. H. Wallace's hundred-page summary is shot through with theoretical considerations and broad views of social policy. The study approaches the problem from three angles: the level of prices set by regulation; the price structure as among the different classes of goods; and the impact of the prices upon employment.

The foundation of federal regulation of milk prices is the celebrated principle of "parity prices" to farmers. In a number of milk markets to which the interstate commerce clause applies the farmers' coöperatives, the large distributors and government authorities collaborate in setting the price of Class I and Class II milk (cream). It has proved impossible to raise the price to the "parity" level, principally because of the competition of outlying areas and the diversion of Class III, that is, manufacturing milk. However, owing to the restrictive measures of the coöperatives and the sanitation authorities, prices have been raised appreciably. The distributors' margins have remained unaffected, and the full incidence of federal regulation seems to have been on the consumers' pocketbook.

[38] *Economic Standards of Government Price Control,* monog. no. 29, Pts. 2 and 4.

All the five milk regulating states investigated in this study—California, Indiana, New York, Oregon, and Wisconsin—set minimum prices to the farmer on Class I and Class II milk, and in some markets in some of these states, on the other classes as well. None sets maximum prices. All states fix the resale price to the consumer, evidently to avoid impairment of the price structure set for the producer; but New York abandoned this policy in 1937. In all states, especially in California, attention is given, in varying degrees, to cost calculations. In California the objective is to establish a differential between fluid and manufacturing milk commensurate with the difference in costs in preparing the two types of product; but in the other four states the principal goal is to enlarge farmers' incomes. In three of these states there is some control of entry, and one of these three, Oregon, has formulated a definite scheme of restricting output. In most of these states, notably Indiana and New York, procedure relies on bargaining between producers and distributors with assistance from the public official; and in all of them, except California, objectives and standards are vaguely expressed in such terms as "fair price," "orderly marketing," "reasonable profits." The available evidence indicates that state control has resulted in advanced prices to the farmers; but there is precarious evidence regarding distributors' margins. After a consideration of the various aspects of a transfer of income from one group of persons to another, the conclusion is reached that raising milk prices to the farmer failed to contribute to general recovery.

The petroleum industry. The consistent theme running through the extended investigations of the petroleum industry[39] is the power and practices of the twenty large integrated companies, commonly referred to as the major companies, and the sad plight of the independents. Little is to be found on price and production structures.

The production of crude oil exemplifies alike the difficulties of unrestrained rivalry and the inadequacies of partial planning. For nearly a decade and a half after the First World War periodic overproduction, price wars, waste, and violent fluctuations in costs and earnings characterized this field, where entry is free and investment and the scale of operations small. The situation was aggravated by the law of capture and the disregard of underground oil for the legalities of the surface boundaries of ownership. In response to the demands for conservation and the "stabilization" of the industry various states adopted proration laws, restricting the production of crude with some regard to

[39] Hearings, Pts. 14-17, 14A, 15A, 17A, *Petroleum Industry; Control of the Petroleum Industry by Major Oil Companies,* monog. no. 39; *Review and Criticism on Behalf of Standard Oil Co. (N.J.) and Sun Oil Co., of Monograph No. 39 with Rejoinder by Monograph Author,* monog. no. 39A.

an estimated demand. These attempts at planned production have been haphazard and of varying degrees of earnestness, and the complaints from the small independents have been numerous. An obvious difficulty rests on the fact that the amount of oil demanded is a function of the price, and price, even in a wayward industry like oil, depends at least partly on cost, which in turn is governed by the amount produced by an entrepreneur: this amount is determined by the quota, but the quota is fixed by the estimated demand. The planner's lot is not a happy one.

The production of crude is to this day a blend of competition and monopoly. Many independents prospect, discover wells and operate them;[40] but much of their land is leased by the major companies. The majors produce one-half of their crude, and they buy from the independents more than they need for refining, selling the excess from time to time in order to influence the market.[41] A small group of large buyers, they confront the many independent sellers with a price set by a leader or by explicit agreement. Nevertheless the price for crude has not been inflexible; during the period between 1926 and 1933, California crude had 19 changes in price, Kansas crude had 45, and Pennsylvania crude had 60. During a period of relatively great economic activity, 1926 to April 1929, the corresponding frequencies of price changes were 7, 18 and 24.[42] However, between 1934-38, prices seem to have been very rigid.[43]

In the movement of crude to the refinery and of gasoline to the consuming markets the pipe line is essential; and since transportation by rail is twice as expensive, the majors, who own the pipe lines, have monopoly power over the independent shipper. The independent is compelled to sell his crude to a few buyers; or to ship over the pipe lines at a profit to their owners; or to build refineries near the oil fields and operate on a small scale and away from the consuming centers.[44] From the refinery the gasoline is moved, in tank cars and tankers, by refiner and jobber, to the bulk station, and from there it is distributed to retailers. The independent refiners without retail outlets sell the gasoline at prices based upon those posted in the trade journals: this is the spot market, sensitive, fluctuating and subject to manipulation. Independents and jobbers who ship the products over pipe lines are subject to a multiple basing point system, under which the rail rate is

[40] Hearings, Pt. 17, *Petroleum Industry*, p. 9934.

[41] To whom the excess is sold and precisely how the market is influenced are not cleared up. See *Hearings*, Pt. 14A, *Petroleum Industry*, pp. 7714-15.

[42] *Price Behavior and Business Policy*, monog. no. 1, pp. 178, 166.

[43] Hearings, Pt. 14, *Petroleum Industry*, p. 7520, Exhibit no. 1177.

[44] *Ibid.*, pp. 7106, 7224, 7338, 7352, 7367-70, 7373, 7376, 7581-6.

charged to destination.[45] There is evidence that the majors exert pressure on the railroads to adjust the rates unfavorably to competitors.[46]

The retailing of gasoline expresses the same type of monopolistic competition as is apt to be observed in any other occupation representing differentiation of service, free entry, little requisite experience, and small scale investment. The difference between the properties of many of the gasoline brands are hardly outstanding, yet the brands are intensely advertised as unique creations, and each brand seeks individual outlets.[47] Most of the gasoline stations—85 per cent of them[48] —and therefore most of the dealers are controlled by the majors, either as employees or under the lease system known as the Iowa plan. In either case the sale of competitive brands is discouraged by subsidies and penalties.[49] The sequel is that there are too many gasoline stations, too many of them are of needlessly expensive architecture, too many operate under capacity, and the expense of retailing as well as the price to the consumer are too high.[50]

There is evidence of retail price setting by the majors, by collusion or price leadership.[51] It seems that at least one retailers' trade association is far from rising above similar practices; and there have been examples of outright agreements, by majors and independents alike, to fix wholesale and retail prices.[52] A local price war may develop owing to one or more of such circumstances as the following. A new gasoline station may decide to lure customers with a low price. A seller of unbranded gas may start cutting the price. An ambitious dealer may attempt to make money by larger sales at a reduced price. A rumor may get around that a neighboring station is making secret price concessions to customers. A company agent may drop the remark to a lessee that his gallonage is below what it should be because he is not sufficiently competitive, and the lessee, fearing the cancellation of

[45] *Ibid.*, pp. 7269-70; Hearings, Pt. 14A, *Petroleum Industry*, pp. 8123-45; Hearings, Pt. 17, *Petroleum Industry*, p. 9817.

[46] Hearings, Pt. 15, *Petroleum Industry*, pp. 8315-23; Hearings, Pt. 16, *Petroleum Industry*, pp. 9068-9125.

[47] There is a general practice among the majors to exchange gasoline, and instances are not wanting in which the purchased gasoline was sold as the purchaser's brand. See Hearings, Pt. 16, *Petroleum Industry*, pp. 9141 *ff.*; Hearings, Pt. 17, *Petroleum Industry*, pp. 9864-9926; Hearings, Pt. 15, *Petroleum Industry*, p. 8409. *Cf. ibid.*, pp. 8409-10.

[48] Hearings, Pt. 15A, *Petroleum Industry*, p. 8735.

[49] Hearings, Pt. 15, *Petroleum Industry*, pp. 8471-75; Hearings, Pt. 15A, *Petroleum Industry*, pp. 8731-90; Hearings, Pt. 16, *Petroleum Industry*, pp. 9171 *ff.*, 9212.

[50] See Hearings, Pt. 15, *Petroleum Industry*, pp. 8678-81, for the views of a company official.

[51] Hearings, Pt. 16, *Petroleum Industry*, pp. 9047, 9055.

[52] *Ibid.*, pp. 9040 *ff.*, 9307-10; *Competition and Monopoly in American Industry*, monog. no. 21, pp. 136, 251.

the lease, strives to raise his sales.[53] During the period between 1926 and 1933, gasoline prices were, by every measure, definitely flexible.[54] According to the testimony of representatives of the industry, the retail price of gasoline between 1923 and 1937 showed a downward trend and was consistently below the B.L.S. index.[55] However, the earnings of 24 companies in the industry rose by 47 per cent in 1937 over 1923, while the income in all manufacturing industries advanced by 8.8 per cent, and the national income by 4.1 per cent.[56]

In evaluating data on price and earnings it is well to remember that, except when the station attendant is explicitly an employee of a company, the incidence of price reductions in gasoline is at least in part on the leasing dealer. Further, while all the marketing phases, from the refinery to the consumer (with the station dealer as an employee of a company), are frequently unremunerative to the majors, what matters to them is the net earnings on the integrated operations as a whole, and such earnings have made a good record.[57]

The iron and steel industry. The best study of price and production policy in any of the T.N.E.C. surveys is connected with the examination of the iron and steel industry. Prior to the Hearings, the U. S. Steel Corporation prepared a number of important analyses, under the direction of Dr. T. O. Yntema, dealing primarily with demand and cost phases of steel and defending the basing point system.[58] In their turn the experts for the committee subjected many of these studies to a searching criticism.[59] There is room only for a sketch of some of these studies, but not for comments on the testimony of business men at the Hearings,[60] which was, however, scarcely different in tenor from the testimony at the Hearings on the other industries.

On the demand for steel two studies presented by the U. S. Steel

[53] *Cf.* Hearings, Pt. 15, *Petroleum Industry,* pp. 8422, 8433-39.

[54] *Price Behavior and Business Policy,* monog. no. 1, pp. 178, 166.

[55] Hearings, Pt. 14, *Petroleum Industry,* p. 7486; Hearings, Pt. 14, *Petroleum Industry,* p. 8713.

[56] Hearings, Pt. 14, *Petroleum Industry,* pp. 7676, 7158, 7509.

[57] Hearings, Pt. 16, *Petroleum Industry,* pp. 9027-31; Hearings, Pt. 17, *Petroleum Industry,* pp. 9608-11, 10040-42; *Control of the Petroleum Industry by Major Oil Companies,* monog. no. 39, pp. 6, 61.

[58] See Exhibits nos. 1410-1418 and nos. 2180-2182. Exhibit no. 1418 appears in Hearings, Pt. 27, *Iron and Steel Industry,* pp. 14619-94; all the other exhibits are in Hearings, Pt. 26, *Iron and Steel Industry,* pp. 13893-14119.

[59] Hearings, Pts. 26 and 27, *Iron and Steel Industry; Price Discrimination in Steel,* monog. no. 41; *The Basing Point Problem,* monog. no. 42. On the basing point system see also Hearings, Pt. 5, *Monopolistic Practices in Industries,* pp. 1861-1950; *Price Behavior and Business Policy,* monog. no. 1, Pt. 2; *Geographical Differentials in Prices of Building Materials,* monog. no. 33.

[60] Hearings, Pts. 18, 19, 20, 26, 27, *Iron and Steel Industry.*

Corporation are of special importance. One study examines the demand for steel in the major steel consuming industries.[61] The cost of steel used in making the products concerned constitutes 10 per cent of the price of automobiles; from 3.4 per cent to 13.9 per cent of the retail price of canned goods; 5 per cent of the value of transportation service; 4 per cent of the cost of a frame house; and 30 per cent of the cost of a steel bridge. The average proportion of the cost of steel to the price of the finished product is taken to be 10 per cent. Thus a 10 per cent reduction in the price of steel will be translated into a 1 per cent reduction in the price of the finished product. The elasticity of the demand for these finished products, of which steel is a component, is "possibly less than 1 or 2." Accordingly, a 10 per cent reduction in the price of steel will reduce the price of the product by 1 per cent and raise the sale of the product, and the consumption of steel, roughly by only one or 2 per cent: the demand for steel is very inelastic.[62]

The second study explores the elasticity of the demand for steel on the basis of a series of steel data for 1919-38.[63] The purpose is to correlate respectively production, shipment, and bookings of steel with such factors as the price of steel, general industrial activity, consumers' incomes, and industrial profits,[64] in order to test the relative strength of the impulses behind the demand for steel. The analysis is abstruse, with adjustments necessitated at each step and with assumptions and hypotheses erected upon assumptions and hypotheses. The final conclusion is that general industrial production, industrial profits and consumers' incomes exercise a primary influence on variations in the amount of steel sold, but that the price of steel is a minor factor; and that the elasticity of the demand for steel is only 0.3 or 0.4.[65]

Another study looks into the relation between output and costs, and subjects to econometric analysis the cost and output data of the U. S. Steel Corporation and its subsidiaries for 1927-38. To eliminate the influence on variation in costs of other factors than output, the total costs of each year were adjusted to the levels of prices of materials, wages, interest rates, taxes, and pensions prevailing in 1938; and since the corporation produces numerous different products, they were all reduced, by a scheme of weighting, to a homogeneous tonnage for each year. The scatter diagram for these annual adjusted costs and

[61] Hearings, Pt. 26, *Iron and Steel Industry*, p. 13589; and Exhibits nos. 1413-1415, *ibid.*, pp. 13981-14016.

[62] *Ibid.*, pp. 13592-93.

[63] *Ibid.*, pp. 13594, 13928.

[64] *Ibid.*, pp. 13594, 13921-22.

[65] *Ibid.*, p. 13927.

outputs is fitted by a straight line sloping to the left. This line points to results contrary to common understanding of the relative magnitudes of the fixed and variable costs of producing steel. The fixed costs are found to be only 182.1 million dollars a year, while the variable costs are as high as $55.73 per ton and are, moreover, constant per ton for a production capacity ranging from 18 to 90 per cent.[66]

The implication of these studies is clear: a reduction in the price of steel during a recession would serve little purpose except inflicting on the firm considerable losses. Specifically, even if the elasticity of the demand for steel is assumed to be unity, a 10 per cent reduction from the 1938 price of steel would occasion a loss of 43 million dollars, and would require a 48.8 per cent rise in production for the producer to break even.[67]

These studies have been criticized at each step by the experts for the committee,[68] but only a few points can be mentioned here. It was pointed out that the price elasticity of steel has been found low on the assumption that the other conditions are constant. But the increased steel output stimulated by a reduction in the price, especially if the reduction is substantial, would, by its impact on investment, employment, and income, encourage alike general business activity and the demand for steel, thus rendering this demand much more elastic. It was also indicated that a general revival of business is bound to arrive when several durable goods industries cut their prices simultaneously; that the use of annual data and weighted tonnage, covering up the varying characteristics of the individual products, tends to minimize the elasticity of demand;[69] and that the elasticity cannot be assumed to be constant for the period under study since it varies with the size of the price reduction, with the phase of the business cycle, and with the expectations of profits.[70] These criticisms have point, but it is doubtful that a price reduction in the steel industry alone can have a control-

[66] *Ibid.*, pp. 13595, 14034, 14051, 14065.

[67] *Ibid.*, pp. 13598, 13602-04, 14064-66.

[68] Hearings, Pts. 26 and 27, *Iron and Steel Industry*, testimony of L. Bean, M. G. de Chazeau, M. Ezekiel, M. Taitel, H. E. White, and W. B. Wooden, and the replies by T. O. Yntema.

[69] Hearings, Pt. 26, *Iron and Steel Industry*, pp. 13632-34.

[70] *Ibid.*, pp. 13635, 13671. The Federal Trade Commission's pamphlet on the basing point system makes an invalid deduction concerning the demand elasticity for steel. Referring to a statement by the U. S. Steel Corporation (*The Basing Point Problem*, monog. no. 42, pp. 46-47) that the demand for the steel of an individual producer is very elastic, since if he shades the price customers will readily shift to him, the pamphlet asserts, "It would seem impossible for an inelastic total demand to be built up out of a series of particular demands that are elastic" (monog. no. 42, p. 125). According to such a view, the total demand for wheat, or any other commodity under pure competition, is perfectly elastic.

ling effect on industrial activity. Also, a concerted price cut by several durable goods industries is apt to provide a strong stimulus indeed, but the suggestion is hardly a valid criticism of the corporation's argument.

More incisive are the criticisms of the cost-volume studies.[71] It is pointed out, among other things, that the income statements of the corporation for 1927-38 are not adapted to the purposes of a cost-output investigation; that the period is too short and, in the critical area on the scatter diagram, there are too few points to fit a reliable line of regression; that the fit on this scatter diagram may properly be curvilinear, pointing to higher fixed costs and lower variable costs; that the adjustment of the data is questionable here and there; that the weighted tonnage is a precarious concept although the technique employed is unimpeachable; that the costs of production are high on account of the possible inefficiency of the oversized corporation; and that the corporation may not typify the industry as a whole with regard to fixed and variable costs.

Doubt is imported from still another quarter. A careful study was made of the relation between the size of a shipment and the magnitude of price concessions in the steel industry, based on ample data for February 1939, supplied by the industry in response to a special questionnaire.[72] It is revealed that the price concessions mount strikingly with the size of the shipment.[73] Steel production in February 1939 was nearly 55 per cent of capacity, and at such capacity the proportion, in the U. S. Steel Corporation, of fixed costs to total costs is 25 per cent.[74] Since according to the corporation studies variable costs are constant and in this instance they amount to 75 per cent of total costs, it seems doubtful that, to get large orders, the industry could afford to diminish mill nets by one-half or more per ton—provided we emulate the corporation and imply that its costs are typical of the industry and that 1938 cost conditions argue for those of February 1939. According to this study, more plausible would be the explanation that variable costs are not constant, but decline as orders and output rise.[75]

In general, it is easy to agree with Dr. Isador Lubin when he remarked at the end of the Hearings on the corporation studies that "the same job might have been done by somebody equally well with a

[71] See footnote 68 above.

[72] *Price Discrimination in Steel,* monog. no. 41.

[73] *Ibid.,* pp. 8-26.

[74] See Hearings, Pt. 26, *Iron and Steel Industry,* p. 14058, Table 28.

[75] *Price Discrimination in Steel,* monog. no. 41, pp. 30-31.

different set of assumptions and different set of methods and gotten entirely different results."[76]

There is lastly the controversy over the basing point system, as warm and as indecisive as ever.[77] There is no intention here to join the lists, but a few remarks may not be out of place. The attitudes of the corporation and the Federal Trade Commission are a study in contrasts. The corporation pamphlet perceives noncompetitive conditions in the industry, but denies monopolistic practices. The Federal Trade Commission perceives monopolistic practices, but ignores the underlying noncompetitive conditions in the industry.

The corporation pamphlet makes much play of the idea that pure competition[78] is an abstraction not exemplified in the world of actuality, implying that the departure of steel from this abstraction is a normal occurrence in industry. The pamphlet does not recognize that, since the essence of pure competition is a price without an ingredient of monopoly, and since, equally, any such price situation is tantamount to pure competition, departures from pure competition betoken a degree of monopoly power.[79] The pamphlet consistently insists that the basing point system is the expression of competition, and nowhere is there mention of a trace of monopoly in the industry. In other words, pure competition is an abstraction, and yet the steel industry, denying the taint of monopoly, is the embodiment of the abstraction. The pamphlet, moreover, considers identical delivered prices as an index of competition. Identity of prices, however, may be associated with duopoly, oligopoly, price leadership, nonprice competition, collusion or pure competition. Only a scrutiny of the conditions producing the identity will reveal the substratum of competition or monopoly.

The claim is made, further, that the basing point system is the natural outgrowth of the unique circumstances describing the industry. This claim is inadequate if it means that, without collusion, the conditions of the industry prompted each steel firm to the basing point system as we know it; just as oligopolists may be induced independently to charge a monopoly price. The claim can at best imply that the basing point system is not the child of the desire of wayward people to be antisocial, but is rather, at least in part, an adjustment to a difficult situation. Analysis and recorded facts unite to suggest that the basing point system could not have emerged and could not endure without monopoly elements somewhere in the situation.[80]

[76] Hearings, Pt. 26, *Iron and Steel Industry*, p. 13715.

[77] *The Basing Point Problem*, monog. no. 42.

[78] "Perfect competition" is used, but the explanations indicate that pure competition is meant. See *ibid.*, pp. 43-44 and notes.

[79] *Ibid.*, *e.g.*, p. 45.

[80] *Cf. ibid.*, pp. 94-105, 107-109.

On the other hand, the insistence of the Federal Trade Commission on making the steel industry competitive by substituting mill base quotations for the basing point system forgets that the proposal, failing to eradicate the underlying features of the industry which engender monopoly, merely seeks to establish the semblance of competition without achieving the substance of it. It is evident that the steel industry is dominated by a few large corporations. It will not be possible to prevent those gatherings for "merriment and diversion" of which Adam Smith complains and at which high f.o.b mill prices can be set. Even without meetings, price leadership or the regard of each seller for the price and production reactions of the other sellers is calculated to institute monopolistic mill prices. Under competition only mill base prices govern; but not every situation in which mill base prices govern is competitive.

Other industries. Some attention was given at the Hearings to the beryllium[81] and liquor[82] industries, with emphasis on patents, the habitual practices of leading concerns, collusive price setting, and, in the case of liquor, the multitude of brands. There is also a monograph[83] summarizing an older investigation by the Federal Trade Commission of the natural gas industry, including natural gas pipe lines, with a few pages on aspects of inquiries by the commission into the agricultural implement and motor vehicle industries. This monograph, of rather poor composition, has little of arresting importance on price and production.

III—Retail Distribution

The position of the consumer. Obviously it was not the intention of the investigations to prepare a treatise on retailing, but scattered throughout the studies we meet problems belonging in this field. There is a volume of Hearings[84] on the plight of the consumer confused by the stress on brands and makes, by the tinselled catchwords and grandiose sales promotions.

The story is familiar. He is confronted in the city of Milwaukee with dozens of brands of canned milk, 142 brands of coffee, 95 brands of tomato juice, 225 brands of canned peas, 107 brands of peanut butter.[85] Tomato juice, according to another consumer witness, presented itself in one store in 21 different containers, 11 brands of varying sizes and

[81] Hearings, Pt. 5, *Monopolistic Practices in Industries; Development of the Beryllium Industry.*

[82] Hearings, Pt. 6, *Liquor Industry.*

[83] *Reports of the Federal Trade Commission,* monog. no. 36.

[84] Hearings, Pt. 8, *Problems of the Consumer.*

[85] *Ibid.,* p. 3312; *Consumer Standards,* monog. no. 24, p. 247.

volumes, and 15 different prices.[86] How to translate the diversity of quantity, quality and service into comparative price equivalence, for a rational choice, is a problem of calculus defying the knowledge and patience of the average consumer. Even simple products like salt and sugar come packaged, branded and advertised so that choice by price alone is precluded.

Brands and price are inadequate guides. German silver has no silver in it, and French ivory is not ivory. Like the Holy Roman Empire to Lord Bryce, French linen is neither French nor linen. "Beaverette" means rabbit skin.[87] The Bureau of Agricultural Economics tested samples of brands of canned fruits and vegetables; and the more specimens of a given brand were tested, the greater was the variation in the grades of quality.[88] Different brands or types of apparel, tires, bedding, drugs or desks are of identical quality but sell at different prices.[89] Higher priced milk has been found to be no better than lower priced milk; and better goods sell at lower prices than inferior goods. The consumer is victimized by false certificates and testimonials, by spurious experts and foundations, and by publications alleging that advertisements in them are trustworthy.[90] How representative such examples are of business practices it is hard to tell. Witnesses and writers are prone to cite outstanding cases; and the investigations under consideration probably do not give a balanced picture.

Proper buying demands calculation and experimentation. Large business concerns and institutions like hospitals and universities employ expert buyers. But a major proportion of the world's buying for the consumer's utility is done by the housewife, who, as Professor Wesley Mitchell once remarked, "is not selected for her efficiency as a manager, is not dismissed for inefficiency, and has small chance of extending her sway over other households if she proved capable."[91] A large monograph is devoted to the problem,[92] but the emphasis falls on providing an exhaustive inventory of the organization and activities of government and private agencies for testing products, procuring their own needs, and directly or indirectly helping the consumer. There is insufficient

[86] Hearings, Pt. 8, *Problems of the Consumer*, pp. 3346 *ff.*

[87] *Ibid.*, p. 3310.

[88] *Ibid.*, p. 3316.

[89] *Ibid.*, pp. 3330 *ff.*; *Price Behavior and Business Policy*, monog. no. 1, pp. 77, 80-81, 369, 376; Hearings, Pt. 21, *War and Prices*, p. 11173.

[90] Hearings, Pt. 8, *Problems of the Consumer*, pp. 3379 *ff.*

[91] *Business Cycles* (New York, 1927), p. 165.

[92] *Consumer Standards*, monog. no. 24. *Cf.* the very inadequate monog. no. 34 (*Control of Unfair Competitive Practices through Trade Practice Conference Procedure of the Federal Trade Commission*).

integration and evaluation of what is being done for the wayfaring consumer by private agencies, by general education, and by the Federal Trade Commission, and there is a somewhat inadequate analysis of what remains to be done for a greater accomplishment. Recommendations run in the following terms: an investigation of the agencies which rate commodities; a study of the effects of resale price maintenance legislation; standardization and labeling of goods; and a government agency of consumer service.[93]

Chain stores. In his monograph on the food industries Dr. A. C. Hoffman summarizes various studies on food chains. Several investigations confirm the view that chain prices in food are distinctly below those in independent stores although this does not necessarily hold of each particular article. Individual chain stores are allowed to depart from the set rules pertaining to mark-ups, for the purpose of meeting local conditions, and a price war may be initiated to crowd out an independent. The emphasis is commonly on price appeal; but there are instances of nonprice competition in the form of advertising and impressive buildings. Prices are flexible, more so in staple goods than in specialties.[94]

The Federal Trade Commission charges that chain mass buyers browbeat the sellers and small processors into unwarranted price concessions and allowances; that they employ the "loss leader" device; and that they pay lower wages than independents do. Dr. Hoffman stresses, and quite properly, such factors as the superior efficiency of management in chain stores, division of labor and specialization of functions, large scale buying and selling, the integration of wholesaling and retailing, and the employment of modern methods generally, all contributing to greater productivity and lower costs. He disposes of the low wage argument by indicating that the sample on which it is based is alike small and unrepresentative.[95]

The question whether prices and margins in retailing in general are competitive receives considerable discussion, and the conclusion is that the retail trade is competitive. Dr. Wilcox[96] offers several lines of evidence in favor of this thesis: the large number of retail units in relation to the population in cities large and small; the very small size of trading establishments, although there is a degree of concentration; the competition of mail order houses, chains, department stores, independent

[93] Hearings, Pt. 8, *Problems of the Consumer*, p. 3454; *Consumer Standards*, monog. no. 24, chap. 8.

[94] *Large-Scale Organization in the Food Industries*, monog. no. 35, pp. 60-62, 71, 101-03, 113.

[95] *Ibid.*, chap. 7 and pp. 103-07.

[96] *Competition and Monopoly in American Industry*, monog. no. 21, pp. 54-59.

retailers, consumers' coöperatives, etc.; free entry, in view of the small requirements of capital and experience; unusually low earnings for the trade as a whole, although the large corporations reveal high earnings; and a high rate of mortality.

The evidence is impressive, but a caution or two may be pertinent. The presence of large numbers is deceptive. Retailing is uniquely a matter of local markets, and local markets may be noncompetitive, as Dr. Wilcox realizes when he states, on another page,[97] that the presence of many sellers locally or nationally, "affords no guarantee that active competition will prevail." Retailing exemplifies differentiation of product with free entry, overinvestment and undercapacity, yielding a monopoly price without, however, a monopoly profit. Further, the low earnings of the trade as a whole may reflect, at least partly, inefficiency, old-time methods, and small scale operations translated into low productivity and high costs of rendering the service.[98]

Dr. Hoffman argues similarly and more extensively to the effect that food chains are competitive concerns. Among the several indicia of monopoly which he examines is the consideration that the sales of the chains constitute a smaller percentage of total sales for the country than is true with regard to concentration in manufacturing industries.[99] It may be observed, however, that inasmuch as there are many villages in the country without food chains, the small percentage is an underestimation: it would rise if the total sales included only those in places where chain stores operate. Moreover, percentages of totals for the country are at times misleading. We saw in connection with the milk industry that, while the two leading distributors together controlled a very small percentage of the total, various large cities were subject to oligopolies. The same situation pertains to other products.[100] It is noteworthy, too, that in food retailing, as in retailing generally, the frequently meager pursed, inexperienced tradesman can hardly meet the chain store prices. Between the costs of the chain stores and the prices charged by the independents there is an area within which the chain store in given localities can exercise a degree of price policy. Stated otherwise, the product and price of the chain store do not encounter in the product and price of the independent a very close substitute. This remark also applies to Dr. Wilcox's and Dr. Hoffman's[101] stress on ease of entry: the inefficient small newcomer is hardly an effective competitive threat to the chain.

[97] *Ibid.*, p. 280.

[98] *Cf. Problems of Small Business*, monog. no. 17, pp. 109-10.

[99] *Large Scale Organization in Food Industries*, monog. no. 35, chap. 9.

[100] *Competition and Monopoly in American Industry*, monog. no. 21, p. 111

[101] *Large-Scale Organization in the Food Industries*, monog. no. 35, p. 86.

One may demur as well to Dr. Hoffman's criterion of profits.[102] The profits of the five largest food chains have been unusually high—over 25 per cent on the investment (including long-term debts) in 1926, and declining to over 11 per cent in 1934-36. The full weight of Dr. Hoffman's contention falls on the consideration that, as the chains grew in percentage of the country's business, their rate of profit steadily declined. To him this fact suggests that "exorbitant chain-store profits must have some other explanation" than monopoly. There may be some other explanation, but the inevitability of the deduction may be questioned. One might suggest that under the pressure of investigations, public opinion, and antichain legislation the chains may have been induced to moderate the exploitation of their monopoly advantage. One would also have to be certain that there had been no overcapitalization, no profit concealment, and no change in other effective circumstances. The question relating to the degree of competition or monopoly in food chains awaits further study.

The drug trade. A careful statistical investigation is presented of retail prices in the drug trade, comprising drugs, toiletries and sundries.[103] In this sphere nonprice competition dominates the picture, and the consumer is so much in the dark about the utilities of the articles that a price considerably below the customary level arouses his suspicion regarding their quality. A chain store offered its own brand of aspirin at 19 cents for a hundred tablets whereas the prices of the best known brands varied from 59 to 75 cents. The public bought very little of the chain store product; but when the price was raised to 49 cents the volume of sales expanded greatly (p. 351). In this trade products identical in all essential regards command widely different prices, frequently out of all relation to cost of manufacture; and there are fluctuating deviations from the list prices among the stores. As is to be expected, small independent druggists in outlying districts charge higher prices for well-known advertised goods than large and conveniently located units.

The drug trade is preëminently subject to the resale price controls which have recently swept over the country, and there is impressive evidence that, but for the "fair trade" laws, the consumer would enjoy lower prices. After the Supreme Court decision in December 1936, upholding the constitutionality of resale price maintenance laws, many prices began to exhibit alike a narrower dispersion among stores and a higher average. Although many an independent drug store matches the prices of chain stores, the chain prices of nationally advertised merchandise commonly rank lower, even where price maintenance ap-

[102] *Ibid.*, p. 96.

[103] *Price Behavior and Business Policy,* monog. no. 1, Pt. 3.

plies, although after the appearance of price maintenance laws price cutting by chains diminished perceptibly. As one would expect, the price range of widely advertised brands exceeds the prices of less known private brands or of unbranded goods of the same quality, but the magnitude of the differentials is often striking indeed (pp. 369-71, 80). With the expansion of "fair trade" legislation some of the large distributors, like department stores in New York City, began to advertise the savings to the consumer purchasing private brands. There is also evidence, however, that some large units, content with the substantial margins of price-maintained products, lost the incentive to push their own brands.

Price-lines. There is finally an interesting account of an infrequently mentioned type of nonprice competition, price-lines.[104] In women's apparel, radios, vacuum cleaners, refrigerators and other goods, the quotations of different companies cluster about definite prices, sanctioned by custom, with arbitrary intervals in the series. Thus the prices of a certain type of girdle will run at $2.95, $2.98, $3.39, $3.50, $3.59, $3.95, and so on, with the greatest frequency of sales at $3.50 and $5.00. Sellers will quote the same prices, but will compete in style, material and workmanship. Some manufacturers of women's dresses will specialize as a $10.75 house or a $14.75 house. Even in a depression, unless there is a great shake-up, the price-lines hold firm, and better material and craftsmanship are put into the article; or else, when possible, the size is increased.

IV—Concluding Observations

As far as the T.N.E.C. investigations relate to price and production policy, it may be said that, aside from new data here and there and an occasionally interesting viewpoint and aside from the testimony by experts, especially on the construction and steel industries, the Hearings are verbose, repetitive, and descriptive; and that the monographs, while containing much fresh statistical exploration, are in the main bent on summary rather than analysis. The ratio of ore to metal is high.[105] None the less the cumulative effect of the panorama of problems presented on the numerous pages is bound to stimulate generalizations and questions which will doubtless vary with the reader. The present reader ventures the following observations.

One, the traditional belief that self-interest begets competition does

[104] *Ibid.*, pp. 70-75, 102-03, 242-51, 382-84.

[105] These remarks are far from predicting a career of limited usefulness for the T.N.E.C. publications. On the contrary, one may be confident that for years to come scholar and layman alike will turn to this rich storehouse of information, which bids fair to outrank the Report of the Industrial Commission.

not seem to accord with actuality. Self-interest seeks the maximization of revenue, and this often implies what Adam Smith called the monopolizing spirit. Competition is not the life of trade; and when circumstances permit monopoly advantage is sought even by the small manufacturer, the village store keeper, and the man in overalls. Monopoly is not the unique sin of big business; nor is it the peculiar attribute of modern days.

Two, competition does not always typify a smooth adjustment by rhythmic oscillations toward a beneficent equilibrium. The experience in agriculture, crude oil, and fluid milk seems to suggest that competition may be associated with disorder and distress. To avoid the pains of adjustment, there must be mobility of resources; that is, pure competition must also be perfect competition. Competition, however, postulates many sellers, and where many people are involved varieties of obstacles are likely to present themselves to their mobility. Thus competition is not apt to be perfect, and, instead of symbolizing ready adjustment, may offer painful economic (and political) problems before a transition has been made.

Three, various sectors of our economy exemplify the sort of monopolistic competition that offers the buyers good alternatives in price and quality and, accordingly, approximate competition closely enough for practical purposes so that an attempt to make the approximation closer, by social policy, may not be worth the effort.

Four, we need to explore more categories of markets. The classification of pure competition, product differentiation, and oligopoly is superior to the old dualism of competition and monopoly. Nevertheless, the diversity of market situations seems to demand a more extended classification and analysis of basic market patterns.

Five, with the dominance of advertising, salesmanship, and product differentiation generally, consumer utility becomes a concept more puzzling than before. Economics teaches that consumer utility governs the optimum allocation of resources, under competition. But when consumers' choices are largely governed by advertising producers, the maximization of utility assumes a new complexion, and the tenet that the consumer is the ultimate sovereign over the producer's moves may need revision. If we decide to accept consumer choices as primary economic data without regard to the antecedent utility calculations, the query arises as to what constitutes the aim of an economy, what it seeks to maximize, and what is the paramount criterion by which we can judge one economic system as against another. The concept of utility is pivotal and cannot be eliminated.

Six, the insistence on establishing competition in various sections of our economy may often face a dilemma. If the advantages of large size

are to be achieved, many industries will be dominated by small numbers. If the industry is atomized into many firms, the result may be the inefficiency of small size compounded with the possible disorder of competition, if the product is homogeneous. If the product is differentiated, the presence of many firms may symbolize overinvestment, undercapacity, and a high price although without a monopoly profit.

Seven, we need to reformulate our attitude to public policy with regard to price and production. The nineteenth century accepted *laissez-faire*. In the first quarter of the present century many seemed to be content with the antitrust laws, if properly enforced. Then came the new formulations of the theory of competition and monopoly. Where do we stand now?

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SAVINGS AND INVESTMENT: PROFITS *VS.* PROSPERITY?

By MOSES ABRAMOVITZ

Introduction

The investigations of the Temporary National Economic Committee are a momentous work. They are the product of a mood of deep despair over both the justice and the efficiency of our economic arrangements. The information compiled in the Hearings and monographs, though much of it is neither new nor even improved, is a telling indictment in its general effect. There can be little doubt that, in the hands of a powerful party representing the interests of workers and farmers, this official portrait of our economy would be a powerful, perhaps decisive, political instrument of reform. Even in the confused political organization of this country it would not, in times of peace, have been without effect. It is clear, however, that the committee completed its work at a time when the country is particularly unready to use it. In the circumstances, it is perhaps not merely excusable but even desirable to treat it, not as the political document which it was meant to be, but as a set of academic materials, to ask what information it contributes to our knowledge of the economy, what general policies seem implicit in the analysis of the monographs and the testimony of the witnesses, and how well these policies fit the problems of the economy as these are now best conceived.

The particular aspects of these problems to which this essay directs itself are those especially connected with our current processes of saving and investment. And on these points, as no doubt on others, it is not an easy job considered from the point of view of scientific advance to reap the fruits of all the labor. Witnesses naturally considered their function to be that of elucidating the simpler facts in the simplest style. Analysis is often distorted to avoid difficulty. Suggestions of policy are left implicit to avoid prejudicing the authority of factual testimony. While the authors of the monographs felt somewhat freer to deal with the complexities of their subjects, their status in the civil service enjoined a still more cautious approach to policy. The final recommendations of the committee are hardly consistent with the scope of the testimony taken or the problems raised.

All this is, no doubt, inherent in the political process of which these materials are a by-product. From the point of view of their contributions to our knowledge, a narrow review of what was said and written, of what should have been treated but was not, would be not only ex-

hausting but also unprofitable. It is better to emphasize the contributions and forget about the failings.

From this point of view some organization is necessary. The most convenient standpoint from which to take departure is the Keynesian convention: Income = Consumption + Investment. Our problems then are: What factors determine the levels of consumption and investment? These problems are broad enough to include all that is relevant in our materials and are, in fact, the point of view from which the relevant monographs and testimony proceed. The character of our materials also makes it convenient to divide the factors bearing on investment into two classes, those dealing with the "rate of interest" (for which we ought to read: "all matters affecting the cost of financing"), and all other conditions determining the attractiveness of investment.

One further bit of cross-classification seems necessary. Our interest runs toward two aspects of national income, its level and its fluctuations. We wish to raise the level and to increase its stability. We would not wish to accomplish our desires in one direction at too great a cost in the other. And, of course, these two aspects of national income are intimately connected causally. In particular, the risks attendant on instability tend to reduce the general attractiveness of investment and thus the general level of national income. Thus, attempts to attain a higher level of income at the expense of stability may defeat their own purpose; and, contrariwise, measures which promote stability and do not directly prejudice the level of income are likely to act to raise it because they reduce the risks attendant on investment.

From an analytical standpoint, moreover, there is a strong tendency —too often exemplified in the T.N.E.C. materials—to infer the characteristics attendant upon certain long-run levels of income from data inherently cyclical in character. One cannot judge with any accuracy how much more people tend to save or invest during a decade when the national income stands at an average level of 87 billion dollars than when it stands at 43 billion dollars by comparing 1929 with 1932. All these considerations urge the necessity of keeping the two problems in mind, both in their divergences and in their parallelisms. Throughout the essay, therefore, we shall ask what the conditions under review portend not only for the level of activity but also for its stability.

I. The Relation between Income and Savings

From the point of view of maintaining a national income of satisfactory size, studies must ask: how much will the community desire to save when the national income is high? The critical statistic is the average propensity to consume. From the point of view of the stability

of income, one wants to know how sensitive is expenditure to a change in income. The question is: How much less will people spend if their income falls by a dollar? The critical statistic is the marginal propensity to consume. These two characteristics of the relation between income and savings are fundamentally distinct and independent.

A community which is able to obtain a high income because its desire to spend at such a level of income is very strong is not necessarily an economy which will resist the impact of forces making for reduced income flows. If the community tends to save but a small amount, but to cling tenaciously to that volume of savings, its rate of expenditure will in fact be very sensitive to reductions in income. It is essential, therefore, to deal with the two problems separately.

1. *The Level of Income and the Level of Savings*

Our interest centers in two questions: How much is the community likely to try to save at high levels of income; and why does it try to save so much? The first question was of major concern to Professor Hansen[1] and to Dr. Currie[2] in their testimony and to Dr. Altman[3] in his monograph. All these witnesses used Dr. Kuznets's well-known estimates of national income and capital formation as the basis of their observations. The witnesses were naturally at a disadvantage for lack of data running over more than the last two decades, years marked by an unparalleled depression which carried income down to levels involving negative saving. For lack of better materials, recourse was had to annual comparisons and conclusions were necessarily limited to pointing out the general order of magnitude of savings associated with levels of national income which furnished "reasonably full" employment. Thus, Professor Hansen used an average of the years 1923-29[4] and Dr. Currie, an average of the years 1923-28[5] to indicate the level of savings associated with high prosperity. In the period, gross savings amounted to about 19 per cent of gross national income. While the witnesses ventured no definite predictions, they thought it worth while to hold out this ratio as a useful basis for calculating the rate of saving likely to accompany satisfactorily high levels of nationl income in the future.

The witnesses make it clear, however, that factors other than the size

[1] *Investigation of Concentration of Economic Power,* Hearings before the Temporary National Economic Committee; 76th Cong., 1st sess., May, 1939, on Pub. Res. 113 (75th Cong.). Pt. 9, *Savings and Investment* (Washington, Supt. Docs., 1940), pp. 3500 *ff.*

[2] *Ibid.,* pp. 3536 *ff.*

[3] O. L. Altman, *Saving, Investment, and National Income,* T.N.E.C. monog. no. 37 (Washington, Supt. Docs., 1941).

[4] Hearings, Pt. 9, *Savings and Investment,* p. 3498.

[5] *Ibid.,* p. 3537.

of the national income have an important bearing on the rate of saving. Indeed, it is these other factors which provide the community with its opportunity for control. Without developing their analysis systematically, they nevertheless point out that our communal propensity to save is likely to vary directly with the degree of inequality in the distribution of income, the amount of profits earned by business, and the percentage of such profits retained by enterprises, and, inversely, with the size of capital gains, the weight of taxation, and the degree to which taxes are borne by the relatively rich.

Oscar Altman[6] uses the familiar materials of the National Resources Committee study, *Consumer Expenditures in the United States 1935-36*, to emphasize the importance of inequality in income distribution. The showing of the committee's data on the relation between the income and savings of American consumers at various income levels is striking. In the year studied it appears that the 59 per cent of our families earning less than $1,250 spent more than they earned while the 2.3 per cent of our families earning over $5,000 saved 79 per cent of the 6 billion dollars saved in that year by individuals. Families having incomes between $5,000 and $10,000 saved, on the average, 30 per cent of their income. But families earning over $20,000, who were less than .3 per cent of all families, saved 50 per cent of their income and accounted for nearly 40 per cent of the total saved by individuals. The average income of all families in the same year was almost exactly $1,500. A rough estimate of the saving which would have been done by individuals if all families had received this average income is 1.8 billion dollars.[7] The actual saving apparently effected came to 5.9 billion dollars.

Adolph J. Goldenthal[8] attempted to estimate the aggregate income earned by the most fortunate one per cent of income receivers. His figures included capital gains and losses in income. But a rearrangement of his data by Dr. Altman[9] provides us with figures excluding capital gains and reveals that the highest one per cent of income recipients received 13 per cent of total individual incomes on the average during the years 1918-37. Moreover, the percentage of income earned by this highest income bracket was remarkably stable, varying between 11.6 per cent in 1920 and 14.3 per cent in 1928.[10]

[6] *Saving, Investment, and National Income,* monog. no. 37, pp. 16-17.

[7] Calculated by the present writer by applying to the total income of all families, as determined by the Consumer Expenditure Study, the average percentage of income saved by the two income groups, $1,250-$1,500 and $1,500-$1,750.

[8] *Concentration and Composition of Individual Incomes, 1918-1937,* monog. no. 4.

[9] *Saving, Investment, and National Income,* monog. no. 37, p. 18.

[10] These percentages are probably an underestimate of the share of the highest one per cent of income receivers. Mr. Goldenthal was unable to estimate the total income received by individuals with the highest economic incomes. His dependence upon Treasury materials

Mr. Goldenthal also presents extremely interesting information on the sources of inequality in the distribution of incomes. He finds that, while compensation for personal services accounted for 83 per cent of all income received by individuals, and income from property for but 17 per cent during the years 1931 to 1935, the highest one per cent of all income receivers secured 49 per cent of their income because of their ownership of property and earned only 51 per cent by "personal service,"[11] a category which is taken to include the total earnings of the owners of unincorporated concerns. Thirty-seven per cent of all income from property during these years went to the highest one per cent of income receivers. Of greatest importance in accounting for the property income of this richest group is its dividend roll. Some 60 per cent of all its income from property came to this topmost income bracket in the form of corporate dividends; and this group received an even higher proportion of all dividends than of property income as a whole: 63 per cent against 37 per cent.

Dividends then play a notable part in giving the members of our highest income bracket the disproportionate share of our total income which they receive. But dividends are even more important in accounting for differences of income within this sparsely populated region. Martin Taitel[12] provides the figures for all federal income taxpayers, as shown in Table I.

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forced him instead to estimate the total incomes of the one per cent of income receivers who obtained the highest *statutory net* incomes. Statutory net income differs from a more relevant definition of income by including capital gains and losses and by excluding contributions, certain taxes paid, tax exempt interest on government securities, and certain other minor items. Hence, it is clear, as Mr. Goldenthal points out, that "the proportion of total economic income received by individuals with the highest statutory net incomes would obviously be somewhat less than the proportion of total economic income received by those with the highest economic income."

[11] The years 1932 and 1933 are omitted from the data. Capital gains were excluded from total income and income from property by the present writer. Savings of individual entrepreneurs and of partnerships not withdrawn from their businesses are included by Mr. Goldenthal in individual incomes. The figures presented in the text are based on Table 10, p. 37, and Table 12, p. 39, of Mr. Goldenthal's monograph (no. 4, *Concentration and Composition of Individual Incomes, 1918-1937*).

A possible distortion of the shares of total income accounted for by personal services and property respectively in different income brackets may possibly inhere in the fact that, in Mr. Goldenthal's classification, entrepreneurial incomes are considered to be a return to personal services alone. It seems unlikely, however, that this can be of great importance. Figures presented by Mr. Goldenthal (*ibid.*, p. 48) make it clear that entrepreneurial incomes accounted for less than 20 per cent of total income for both income recipients earning more than $5,000 and those earning less than $5,000 and that the shares of total income accounted for by entrepreneurial earnings in the two groups did not differ by more than two percentage points in any of the four years, 1926, 1929, 1932 and 1935, for which data are presented. Moreover, only part of the total earnings of entrepreneurs can be attributed to their capital investments.

[12] *Profits, Productive Activities and New Investment*, monog. no. 12, p. 53.

Perhaps the most significant information in the table appears in the last column. These data indicate that even at the lower levels of taxpayers' incomes, substantial portions of the difference between the average incomes of successively higher brackets are due to differences in the amount of dividends received. Above the $50,000 level over one-half of the difference is attributable to dividends, and this ratio becomes even higher as incomes rise. Figures for 1932 and 1929 exhibited similar characteristics.

TABLE I—APPROXIMATE RELATION BETWEEN GROSS INCOME AND DIVIDEND RECEIPTS: 1936

Average gross income	Dividend receipts		Difference between successive average gross incomes	
	Approximate average	Percentage of gross income	Amount	Percentage accounted for by dividend receipts
$ 2,400	$ 125	5.2	—	—
5,000	551	11.0	$ 2,589	16.5
10,000	1,825	18.3	5,000	25.5
25,000	7,843	31.4	15,000	40.1
50,000	20,306	40.6	25,000	49.9
100,000	49,402	49.4	50,000	58.2
150,000	79,997	53.3	50,000	61.2
300,000	181,984	60.7	150,000	68.0
500,000	328,915	65.8	200,000	73.5
1,000,000	704,117	70.4	500,000	75.0

The rich, however, are not rich because of the direct yield of their property alone. As much of their income comes to them in the form of salaries and fees (31 per cent) as comes in the form of dividends (30 per cent).[13] In 1929, when the average income receiver earned about $1,150 in the form of wages and salaries, the comparable figure for the highest one per cent of our income receivers was $6,859. In 1931 the comparable figures were $864 and $6,130. One would, however, be ingenuous indeed, if one thought of the "earned" income of the rich as substantially independent of their property income. The "pickings" as well as the profits of property are great. The relatively small group of men who receive the highest property incomes also control our corporations. When corporations make profits and furnish these men dividends, they also furnish a fund which makes possible the compensation of executives at high salaries, the payment of bonuses and the like. Indeed, the same thing is probably true if the corporations are merely

[13] The figures apply to the average of the years 1919-35, 1932 and 1933 being excluded. The calculations are based on *Concentration and Composition of Individual Incomes*, monog. no. 4, Tables 10 and 12.

big, even if unprofitable. Big and, more especially, profitable corporations can afford to pay extremely high fees for the services of fashionable and, no doubt, somewhat more skilled attorneys, accountants, and consulting engineers. Rich individuals can afford to pay their attorneys and physicians in the same liberal fashion. Finally, one may add that property income means the education and, even more, the connection and entrée which qualify individuals for the more lucrative positions in the economy. All this, of course, is not meant to belittle the real importance of sheer ability.

It is clear that the magnitude of property earnings, more especially of profits, is a critical determinant of the volume of individual savings. Profits, however, affect the savings of the community at still another point. When business makes profits it usually retains part of these net earnings either to finance its own purchases of capital goods or to increase its liquid assets. Dr. Altman used the Department of Commerce estimates of gross savings by nonfinancial enterprises and Dr. Kuznets's estimates of gross capital formation to indicate that, in two periods of relatively high income and high savings, 1925-29 and 1935-39, gross savings of business averaged 36 per cent and 35 per cent, respectively, of aggregate gross capital formation.[14]

Dr. Kuznets's recently published study of national income provides us with a convenient gauge of the importance of the net savings of business.[15] During the prosperous period 1919-28, incorporated and unincorporated business together accounted for more than 19 per cent of the net savings of the community. In the highly prosperous year 1929, the figure was 26 per cent. In the relatively depressed period, 1929-38, when corporate net earnings alone dropped to an average of 2.3 billion dollars a year from 4.9 billions in the earlier period, business enterprises dissaved at the rate of 2.3 billion dollars a year. Even in the relatively prosperous year 1937, when the community saved 6.4 billion dollars, business enterprises dissaved one billion dollars.

It is not easy from these figures to arrive at any definite impression of how important business savings are likely to be during the years of high prosperity. The latter twenties were quite exceptionally profitable years; even the payment of unprecedentedly high dividends did not prevent corporations from adding substantial amounts to surplus. The thirties, on the other hand, included the country's deepest depression. Moreover, when recovery came, profits failed to rise to anything like pre-depression levels. In 1937, the best of these years, net profits of corporations before taxes were not higher than in 1922 when our na-

[14] *Saving, Investment, and National Income,* monog. no. 37, p. 15.

[15] *National Income and Its Composition 1919-1938* (New York, Nat. Bur. of Econ. Research, 1941), Table 39, p. 276.

tional income was some 14 per cent smaller.[16] In addition, the short-lived but effective federal undistributed profits tax[17] probably forced the distribution of a considerable volume of corporate dividends which would otherwise have been retained. On balance, therefore, it seems a fair guess that future boom periods will see substantial savings by business enterprises, perhaps of the order of magnitude which characterized the twenties.

There is some question, however, about the accuracy with which the depreciation and depletion allowances actually charged by business truly measure the investments required to maintain capital intact. Professor Hansen[18] argues that a much smaller amount of replacement expenditures than the amounts actually charged to depreciation may be sufficient to maintain the productivity of the total capital stock. If this were so, the effective net savings of business required to be absorbed by investment intended to expand output would be considerably larger than the figures cited in the text above.

In support of his views Professor Hansen cites the fact that depreciation allowances are, in the ordinary course, used to provide improved machinery operated by more efficient techniques. Against this view one might stress the importance of the obsolescence which accompanies technological advance. The difficulty at bottom is a conceptual one. A useful definition of the amount of investment required to maintain capital intact may be quite different in an analysis of money flows and in other conceivable problems. One way out of these conceptual difficulties is to conceive of the savings-investment problem in gross terms alone. On this basis, of course, the importance of business savings is unquestionable.

Still another unresolved problem connected with business savings concerns the net reduction in the communal propensity to consume which might be effected by forcing a larger distribution of business profits. Although great stress was laid in both the testimony and monographs[19] upon the extent to which retention of earnings of business added to the savings of the community, no attempts were made to indicate what the net effect upon the community's saving was likely to be if earnings were distributed in greater volume.

The logic of the situation is, of course, such as to leave no doubt that,

[16] *Ibid.*, Table 37, p. 269.

[17] Some notion of the effect of the undistributed profits tax on the net savings of corporations may be gleaned from the fact that corporations dissaved 700 million dollars more in 1937 than in 1938 when the tax was reduced to nominal levels, although corporate profits fell from 3.5 billion dollars in 1937 to 2.8 billion dollars in 1938. *Ibid.*, table 22, p. 216.

[18] Hearings, Pt. 9, *Savings and Investment*, p. 3510.

[19] See especially the testimony of Oscar Altman, *ibid.*, pp. 3669-3702,

other things being equal, a reduction in business savings is likely to reduce the total savings of the community. The individuals to whom the profits of business are distributed are unlikely to save anything like the entire amount. This would be true even though the very rich secure most of the profits distributed. Still, a quantitative expression of the probable net reduction in savings is vital; for it is clear that if business is forced in somewhat greater measure to finance itself *via* the security markets, this constitutes some bar to investment. Unless the reduction of savings is greater than the probable reduction of investment, a more liberal distribution of profits would be of no benefit.

Paul Samuelson's study of this problem led him to estimate that a reduction of business savings of $1.00 was likely to cause individuals to increase their savings by about 20 cents.[20]

TABLE II—NATIONAL INCOME AND SAVINGS, 1919–28, 1929–38[a]

(All figures in billions of 1929 dollars)

Classification	Annual average	
	1919–28	1929–38
National income	68.6	71.1
Aggregate payments to individuals, excluding entrepreneurial savings	65.4	74.3
Savings by individuals	3.4	4.8
Savings by business	2.3	−3.2
Total private savings	5.7	1.6

[a] From *National Income 1919–1938* by Simon Kuznets, Occasional paper no. 2, National Bureau of Economic Research.

Somewhat less formal use of national income figures yields much the same impression. The figures below are abstracted from a recent paper by Simon Kuznets.

Although the national income in constant dollars was larger in the second decade than it was in the first, savings of individuals and business together were much smaller. The entire decline in savings is accounted for by the dissaving of business. A reduction of business savings of 6.4 billion dollars was accompanied by a reduction of total private savings of nearly as much (5 billion dollars). This occurred in spite of the fact that individual savings undoubtedly increased between the first decade and the second for reasons other than the decline in business savings. Although the share of income going to the richest

[20] See his note in Professor Hansen's *Fiscal Policy and Business Cycles*, pp. 250-60. Dr. Samuelson is skeptical about the value of these figures because of the high correlation between business savings and aggregate income payments to individuals.

section of the population was about the same in both decades,[21] aggregate income payments to individuals increased by about 14 per cent. Capital gains, which probably induce individuals to spend a larger proportion of their incomes than they otherwise would, fell from an annual average figure of 1,700 million dollars in the first decade to only 81 million dollars in the second decade, a comparison which probably greatly understates the decline.[22] The comparison, in sum, constitutes a rather telling bit of evidence in favor of the notion that a decline of business savings is likely to lead to a rather large comparative decline in total savings, other things being equal.

The last important component of savings is that done by governments. Dr. Altman indicates that during the prosperous period, 1925-29, governments accounted for 10 per cent of gross savings. On a net basis the share of governments' savings is considerably larger—22 per cent.[23] These figures emphasize the margin of control largely at the discretion of governments. Prosperous years in the future need not be characterized by such a large volume of investment as has marked them in the past, provided that a more enlightened control of fiscal policy prevails.

While inequality in the distribution of income is perhaps the most important cause of one great volume of individual savings, the distribution of income is particularly subject to modification through the medium of taxation. From this point of view, the character of our tax

[21] After deduction of federal income taxes, income receivers falling in the highest one per cent of the income distribution apparently obtained 12.2 per cent of all income received in the decade 1919-28. In the second decade the same group obtained 12.6 per cent of all income received by individuals.

The figures for this computation were derived in the following manner:

1. Income payments excluding capital gains but before income taxes, from S. Kuznets, *National Income 1919-1938* (Occasional paper no. 2, Nat. Bur. Econ. Research), Table 1, p. 7.

2. Incomes of the highest one per cent including capital gains and before taxes, from *Concentration and Composition of Individual Incomes,* monog. no. 4, Table 12, p. 39.

3. Capital gains of the highest one per cent, *loc. cit.,* except 1937, which was estimated by the present writer by applying the ratio of capital gains realized by the highest one per cent in 1936 to total capital gains in 1936 to Mr. Goldenthal's estimate of total capital gains in 1937. (*Ibid.,* Table 10, p. 37.)

4. Federal income taxes paid *in toto* and by the highest one per cent, *ibid.,* Table A-6, p. 98.

Inability to estimate the realized capital gains of individuals in 1931, 1932, and 1938 made it necessary to exclude these years from the second decade.

[22] The figures are computed from *Concentration and Composition of Individual Incomes,* monograph No. 4, Table 10, p. 37. The average for the second decade does not include the years 1931 and 1932, when it seems likely that capital losses were large, and 1938, when the capital gains, if any, were probably small. Changes in the income tax law make the figures for 1935, 1936, and 1937 understate the amount of capital gains to some degree, a fact which counterbalances to some extent the effect of the years omitted.

[23] Kuznets, *National Income and Its Composition,* Table 39, p. 276.

system is a critical determinant of our tendency to save. This is the subject of a particularly bold and suggestive monograph by Gerhard Colm and Helen Tarasov.[24] Working on a problem for which the materials are poor even as economic data go, the authors were yet courageous enough to attempt to approximate answers to relevant questions and not merely to those questions to which relatively accurate answers could be made. They attempt, in fact, to trace as accurately as poor material and the nature of the problem allow the incidence of all federal, state and local taxation upon the members of the various income size groups for the fiscal year 1939.

A preliminary allocation of taxes into two groups—those which are directly levied on consumption or may be presumed to be shifted to consumers, and those personal taxes which may be presumed to be paid by persons on whom they are levied—yields the highly interesting estimate that over 70 per cent of the total tax revenue in 1938-39 fell on consumption, while only 30 per cent took the form of personal levies which could not be shifted to others.[25] State and local taxation are, as is well known, more culpable in this respect than federal taxation, and it appears from Dr. Colm and Miss Tarasov's figures that over 85 per cent of state and local taxes are finally borne by consumers.

With all the caution required by their problem,[26] the authors present the following figures on the percentage which taxes are of income for various income groups.

It is apparent that whatever elements of progression existed in our pre-war tax system were found in the federal tax system alone, and even federal taxes only begin to be seriously progressive above the $10,000 income level. From the point of view of distributive justice, the reform of the American tax system still has far to go. It is clear, too, that progress in this direction will involve substantial inroads upon the volume of savings. Although Dr. Colm and Miss Tarasov do not venture estimates of the effect of an increase in the progressiveness of our tax system upon the volume of saving, their material was clearly organized to be relevant to that problem. This question will be discussed at some length in a later section of this paper.

[24] *Who Pays the Taxes?* monog. no. 3.

[25] This calculation is based on figures pieced together from various tables of *Who Pays the Taxes?* monog. no. 3. Following Dr. Colm and Miss Tarasov, taxes which are presumed to fall on consumers include employers' contributions to social security taxes, though these may well fall on labor, and taxes on all real estate improvements. Corporation income, excess profits, and stock taxes are assumed to fall on the income or equity of corporate shareholders and are, therefore, included among the nonshiftable personal taxes.

[26] It seemed impossible in a paper of this character even to begin to summarize the difficulties of estimation encountered by the authors in arriving at their final tables. Interested readers are referred to Dr. Colm and Miss Tarasov's own concise presentation.

From this review of the determinants of saving, the magnitude of profits emerges as of critical importance. When profits are large, business retains a substantial part of its net earnings, and these retained net earnings constitute a considerable part of all our savings. The dividends which business pays go in great part to the rich and form a substantial portion of their total income. And since the rich tend to save a very large portion of their incomes, dividends account for a much larger percentage of the community's savings than they do of the community's income. Finally, profits probably are the basis of a considerable portion of the nondividend receipts of the rich. By providing a surplus fund at the discretion of business directors, profits make possible the payment of extremely high salaries and bonuses to corporate officials and fees to the accountants, attorneys, and engineers who serve big business. As the source of a large part of the personal incomes of the rich, profits play the same rôle in making possible the incomes of the better paid physicians, attorneys and architects who serve rich individuals.

TABLE III—TAXES AS A PERCENTAGE OF CONSUMER INCOME: 1938–39

Income classes	Taxes as percentage of income			Savings as percentage of income
	Federal	State and local	Total	
I Under $ 500	7.9	14.0	21.9	−24.3
II $ 500– 1,000	6.6	11.4	18.0	− 2.0
III 1,000– 1,500	6.4	10.9	17.3	5.2
IV 1,500– 2,000	6.6	11.2	17.8	5.8
V 2,000– 3,000	6.4	11.1	17.5	9.6
VI 3,000– 5,000	7.0	10.6	17.6	16.8
VII 5,000–10,000	8.4	9.5	17.9	28.4
VIII 10,000–15,000	14.9	10.6	25.5	32.3
IX 15,000–20,000	19.8	11.9	31.7	32.3
X 20,000 and over	27.2	10.6	37.8	38.3
Total	9.2	11.0	20.2	11.4

Martin Taitel provides us with figures which allow us to secure some summary impression of the importance of profits in accounting for communal savings. He estimates, for a number of years between 1920 and 1937, the amount of savings effected out of corporate dividends by dividend receivers with incomes of more than five thousand 1935-36 dollars. His method involves the distribution of dividend payments by the income levels of the recipients and the use of the National Resources Committee 1935-36 estimates of the percentages of income saved at various income levels to estimate the amounts of dividends

saved.[27] Since savings out of dividends received by individuals with incomes of less than $5,000 were neglected, there can be little doubt that Mr. Taitel's figures do not exaggerate savings from this source. To these estimates we have only to add the sums saved by incorporated and unincorporated business to secure estimates of total savings from profits. For this purpose the present writer has utilized Dr. Kuznets's recent estimates of these magnitudes.[28]

Table IV presents estimates of savings from profits for four prosperous years, together with related information.

TABLE IV—ESTIMATES OF PROFITS AND OF SAVINGS FROM PROFITS

(In billions of dollars)

Classification	1925	1929	1936	1937
1. Savings from dividends[a]	1.4	2.0	1.1	1.2
2. Retained earnings of corporations[b]	0.8	1.5	−0.7	−1.4
3. Entrepreneurial savings[b]	1.6	1.1	1.2	0.4
4. Total savings from profits (Lines 1+2+3)	3.8	4.6	1.6	0.2
5. Total savings[b]	9.3	10.0	5.4	6.4
6. Percentage: savings from profits divided by total savings	41.0	46.0	29.6	3.1
7. Dividends[c]	4.4	6.3	4.8	4.9
8. Total "profits" (Lines 2+3+7)	6.8	8.9	5.3	3.9
9. National income[d]	76.0	87.2	62.9	70.5
10. Percentage: total profits divided by national income	8.9	10.2	8.4	5.5

[a] *Profits, Productive Activities and New Investment*, monog. no. 12, Table 14, p. 63.
[b] Kuznets, *National Income and Its Composition 1919–1938*, Table 39, p. 276.
[c] *Ibid.*, Table 70, p. 348.
[d] *Ibid.* Table 1, p. 137.

The figures above provide a striking illustration of the importance of profits in accounting for savings. Although profits form no more than 10 per cent of the national income in any of the years shown, they were apparently responsible for as much as 46 per cent of our total savings.[29] In 1937 the reverse is true, but the circumstances serve to emphasize the importance of the magnitude of profits in accounting for savings. In

[27] See *Profits, Productive Activities and New Investment*, monog. no. 12, chap. 6, sec. C, and chap. 7 for a detailed description of Mr. Taitel's methods.

[28] Mr. Taitel's own estimates of retained earnings were discarded because they were not adjusted to eliminate revaluations of assets.

[29] The estimates of total profits shown in Table IV possibly underestimate somewhat the magnitude which is relevant to our problem. Our estimate includes corporate dividends and the retained earnings of incorporated and unincorporated business. It does not include that part of entrepreneurial withdrawals which are properly profits. Consequently, our comparison of the difference between the proportion of national income and the proportion of savings accounted for by profits somewhat overstates the case.

that year, corporations maintained their dividends at the 1936 level although their profits fell by 15 per cent. The same condition must have been true of unincorporated business, judging from the reduction in entrepreneurial savings. As a result, business as a whole dissaved one billion dollars and savings from dividends failed to make up for this high rate of business dissaving.

The moral may be underscored by noting that, when profits change, a very large proportion of the change is likely to go into or come out of savings. If we total, without regard to sign, the three changes in profits between the four years shown in Table IV, we find that the sum, 7.1 billion dollars, is associated with changes in savings from profits which total 4.2 billion dollars. The associated changes in total savings were only 6.3 billion dollars.

All this is information of great interest. But its bearing upon our problem is less close than may at first appear. We are interested in estimating how much investment is likely to be necessary in order to *maintain* income at a high level. The figures we have reviewed tell us how large was the volume of savings when income stood temporarily at a cyclical peak. For various reasons the amount saved out of a given income produced at a cyclical peak is likely to be quite different from the amount the community is likely to save from the same income if this national dividend can be sustained for some time.

One important factor probably operates to make the propensity to save smaller at cyclical peaks than in the long run. During a business boom capital gains are apt to be large and to encourage people to spend more from a given income than they would otherwise be inclined to do. Another factor working in the same direction is the use of consumer credit. While their incomes are increasing people are inclined to add to their present consumption by anticipating future income. But if income is stabilized, the volume of consumer credit outstanding may also be expected to stop rising, other things being equal.

Other possibly more important factors work in the opposite direction. They serve to indicate that the savings associated with high incomes, if the latter are maintained, will be smaller than is suggested by the figures we have reviewed. It seems plausible to suppose that consumption standards lag behind income. It takes time for people of given earnings to discover the opportunities which larger incomes afford, time to rearrange their situations to make full use of these opportunities, and time for the conventions of the group to impose their sway upon the recalcitrant. But possibly more important than any of these considerations is the fact that the profits earned in the production of a high level of income are likely to become smaller the longer that level of income is maintained. Profits are high at cyclical peaks in good part

because a high level of income has been reached only a short time after the community had known a low level. Except in cases where competition is virtually absent and entrance to an industry barred, the rivalry of existing firms and the entrance of new firms should lead to sufficient plant expansions to cause a substantial reduction in the volume of profits. Moreover, of the profits which are earned, business is less likely to retain so large a fraction since the urgency to provide reserves for a coming depression is reduced.

One can only speculate about the relative importance of these factors and about the possibility that other factors equally cogent have been overlooked. It is clear, however, that we know little as yet about the volume of investment required to maintain a given level of national income.

2. *Changes in Income and Changes in Savings*

Although the work here under review is based upon statistical materials which represent observations of a period marked by violent cyclical changes and although the data used were reported at relatively frequent intervals (annually), attention was almost entirely directed to the level of savings associated with high income. Beyond cursory remarks about the possibility that savings are likely to increase more rapidly than income as the country emerges from a deep depression,[30] no attention was given to the sensitivity of savings to changes in income. Material of the sort we have reviewed, however, is able to cast some light upon this problem.

For example, Rollin Bennett,[31] working with Harold Barger's quarterly estimates of income and consumption in constant prices for the years 1921 to 1938, found that a $1.00 increase of income was accompanied on the average by an increase of savings of approximately 37 cents. Paul Samuelson[32] presented estimates of the same sort based upon annual data in constant prices adjusted for changes in population. He found that a $1.00 increase of national income was accompanied by increased savings of 46 cents on the average.

[30] Compare the testimony of Lauchlin Currie, Hearings, Pt. 9, *Savings and Investment,* p. 3537.

[31] "The Significance of International Transactions in the National Income," *Studies in Income and Wealth,* Vol. 4 (New York, Nat. Bur. of Econ. Research, 1941). Mr. Barger's estimates on which these calculations were based will appear in a forthcoming publication of the National Bureau of Economic Research. Believing that the corporate profits which influence consumer expenditures are probably profits as reported rather than as adjusted for capital gains, Mr. Bennett used income figures before revaluation of assets.

[32] See, Hansen, *op. cit.,* p. 253. Dr. Samuelson used Dr. Kuznets's data as presented in *National Income and Capital Formation,* from 1921 to 1935 and estimates of the National Resources Planning Board from 1936 to 1939.

These results indicate a very high degree of sensitivity of savings to changes in income. Conversely, they indicate that, so far as our savings habits go, the forces making for stability of income are very strong.[33] This source of resistance to cyclical fluctuations, however, appears to depend to a much greater extent upon the reaction of business savings to a change in national income than upon the responses of individuals.

The present writer has estimated that business savings accounted for 38 per cent of the changes in net savings between peaks and troughs and troughs and peaks of business cycles between 1919 and 1938, while private savings accounted for but 26 per cent. The balance of the changes in savings was due to the action of governments.[34] The difference in the sensitivity of these various components of savings to changes in national income is emphasized by the fact that the average annual savings of business over the period as a whole was virtually zero while individuals saved, on the average, 4.2 billion dollars a year and governments about 700 million dollars.

Paul Samuelson[35] has attempted a more elaborate estimate of the same magnitudes with even more striking results. He studied the relation between consumption and aggregate income payments to individuals by years between 1921 and 1935[36] and found that, on the average, virtually the whole of every dollar of incremental income tended to be spent. The entire increase of savings associated with increases of income tended to take the form of business or governmental savings. The relation between total business savings and the national income produced yielded an extremely high marginal propensity to save—49 cents out of every $1.00 increase of income.

Dr. Samuelson considered that some part of the high degree of sensitivity of individual consumption to increases of individual income was due to business savings. Individuals may fail to increase their savings in part because business does it for them. He therefore attempted to discover the relation between consumption and aggregate income payments to individuals after allowing for changes in business savings. His results, presented with great diffidence because of the high degree

[33] The results of still other estimates of the propensity to save in the United States are summarized in Colin Clark's *The Conditions of Economic Progress*. Four different methods yielded results ranging from 30 to 33 cents of savings with each dollar of income increase, figures somewhat lower than those cited in the text.

[34] These figures are based upon Dr. Kuznets's estimates of savings as presented in *National Income and Its Composition 1919-1938*, Table 39, p. 276. The reference dates of the National Bureau of Economic Research were used to mark peaks and troughs of business cycles.

[35] See Hansen, *op. cit.*, pp. 255 *ff*.

[36] Again Dr. Samuelson's figures were drawn from S. Kuznets, *National Income and Capital Formation*. They are corrected for changes in the cost of living and in population.

of intercorrelation among the factors, indicated that if business savings did not vary from their level in 1929, individuals would raise their savings by about 19 cents when their incomes increased by $1.00. An increase of enterprise savings of $1.00 increases consumption by 23 cents.[37]

If these calculations are anywhere near the mark, then it would appear that a large part of such resistance to cyclical changes as is found in our economy consists in the fluctuation of business savings. The real objection to undistributed profits taxation may be found less in the fact that it constitutes a hindrance to the financing of small business than in the fact that it would tend to increase the violence of cyclical fluctuations.

II. The Inducement to Investment

The factors which determine the volume of investment can be grouped into two classes: those bearing on the profitability of investment, and those influencing the costs of securing the necessary resources. This section will deal with the first of these groups.

The testimony of Professor Hansen and Dr. Currie included statistical material and analysis relevant to the problem of stimulating a greater rate of investment.[38] Dr. Altman's monograph bore in part on the same question. Our review of the materials and analyses they offered properly starts with a statement of the country's position as they saw it at the time they testified and wrote.

Our recent record in the production of national income, they pointed out, has not been as good as it was in the past. Whether we calculate national income upon a net basis or a gross basis, in current values or in constant values, its level in 1937—the most recent pre-war peak year—fell short of its level in 1929. Since our population was larger in 1937 than in 1929, the drop in income per capita was even greater. Moreover, unemployment was probably far more serious in 1937 than in 1929 though here, of course, statistics are notoriously poor.

This decline in national income was associated with, and in a significant sense no doubt caused by, a far larger decline in the rate of capital formation. While net national income in 1929 prices dropped 7.2 per cent between 1929 and 1937, net capital formation declined

[37] Presumably the circumstances under which a hypothetical reduction of business savings occurs would have some bearing upon the results. A decline of business savings which reflects a reduction of profits and implies, at a given level of income produced, an increase in the amount distributed as costs of production would be likely to have a different effect upon consumption than would the same reduction if caused by an increase in profits distributed.

[38] Hearings, Pt. 9, *Savings and Investment.*

nearly 37 per cent.[39] On a gross basis national income fell 5.6 per cent, while capital formation decreased 10.3 per cent.

Professor Hansen and Dr. Currie undertook a statistical analysis of the sources of this decline of investment. Dr. Currie's breakdown of his estimates of "income producing expenditures which offset saving," a slightly modified version of the gross investment magnitude, is most convenient for this purpose. Table V provides the gist of his findings.

TABLE V—LAUCHLIN CURRIE'S ESTIMATES OF INCOME PRODUCING EXPENDITURES THAT OFFSET SAVING, 1929 AND 1937[a]

(In millions of current dollars)

Type of Expenditure	1929	1937	Change, 1929–37
1. Plant	4,365	2,175	−2,190
2. Equipment	5,680	5,341	− 349
3. Private housing	2,810	1,450	−1,360
4. Change in inventories	2,146	3,072	926
5. Foreign balance	447	−24	− 471
6. Change in consumer credit	987	891	− 96
7. Non-profit construction	568	190	− 378
Total business and private construction	17,003	13,095	−3,908
Total business and private construction excluding inventories	14,857	10,023	−4,834
8. Government: federal	−235	1,092	1,327
9. Government: state and local	928	−291	−1,219
Total: all governments	693	801	108

[a] Figures for items 4, 5, 6 are taken from Dr. Currie's revised estimates, Hearings, Pt. 9, *Savings and Investment*, p. 4122. His earlier unrevised figures are taken from various tables, *ibid.*, pp. 4011–14, in order to make use of a more detailed breakdown there available.

It is clear that the great changes in the volume of investment occurred outside of the governmental sphere. The increase in the net contribution of the federal government was virtually offset by the decline in the net contribution of state and local governments. Within the private sphere the gross decline came to nearly 4 billion dollars and the decline is even more striking if we exclude from our calculations the investment represented by the accumulation of inventories which was very large in both years but nearly a billion dollars larger in 1937 than in 1929. The decline in private investment excluding inventories amounted to 4.8 billion dollars. The bulk of this decline is easily traced. If we add together the declines in the items that represent construction of one sort or another, that is, plant, private housing and nonprofit construction, the sum is 3.9 billion dollars, which is some 81 per cent

[39] I use here the latest figures of Kuznets, *National Income and Its Composition 1919-1938,* chap. 4.

of the total decline. The volume of construction of both plants and residences was only half as large in 1937 as it was in 1929. The decline in equipment expenditures was small by comparison, less than one half a billion dollars and not nearly so generally dispersed throughout the economy. If allowance were made for price changes, the volume of equipment expenditures may actually have been higher in 1937 than in 1929.

Professor Hansen's and Dr. Currie's presentations of these materials constitute a valuable contribution to our knowledge of recent business history. Specialists, no doubt, will dispute points of detail. The major lesson of the figures certainly will stand. There was a great decline in investment. The decline centered in construction of industrial plant and private housing. Serious controversy begins with attempts at interpretation.

To the present writer three lines of explanation suggest themselves. The first would stress the importance of particular circumstances peculiar to various segments of the field and to the period in question. Thus, one may point out that building construction follows long cycles which vary in duration from fifteen to twenty years. Residential construction which reached a peak in 1925 would, then, not be expected, in the ordinary course, to see another year of high boom before, say, 1940 or perhaps later. Industrial construction which turned down later than residential building would be expected to reach its next high point at a still later date. Moreover, the growth of the power of labor unions and of trade associations which took place after 1933 may well have placed special obstacles in the way of investment in a field notoriously ridden by monopoly in the supply of labor and materials. Investment in railroad plant and equipment was hindered by unwieldy financial structures and bankruptcies which were the heritage of the great depression.[40] The decline in the favorable net foreign balance (nearly half a billion dollars) was due in some part to the recency of our unfortunate experience with foreign lending in the twenties and in some part to the "peculiar" difficulties in international affairs which marked the thirties. This same period saw a decline in the influence of Big Business upon government and a concomitant growth in the influence of farmers and labor unions. It is plausible that the rapidly accelerated pace of governmental intervention in business, the strengthened hand of labor unions, and the novelty of government spending badly shook the confidence of investors. If investment decisions are concentrated in the hands of a particularly small group of men apt to move in the same social circles

[40] Compare Professor Hansen's remarks in this connection, Hearings, Pt. 9, *Savings and Investment*, p. 3547.

and to reinforce each other's prejudices, such an outcome is the less surprising.[41]

A second line of explanation stresses the importance of cyclical factors. The decline of business from 1929 to 1932 was the most serious in our recorded industrial history. From such a deep depression, it is not possible to recover with more than a certain rapidity. Except for temporary inventory booms, time is required for the circular flow of money to be rebuilt, for investment expenditures to have their effect upon consumption, and so to encourage further investment for replacement and expansion. As our economy now operates, the process of expansion creates difficulties by its own working which make the occurrence of a halt very probable after a time. Part of the increased investment which takes place during the expansion represents an accumulation of postponed replacement expenditures. When these have been made, the rate of investment must tend to fall off. Moreover, an important part of the increase in investment associated with expansions is made up of accumulations of inventories required to support a larger volume of production and trade. This rate of investment in inventories depends in part upon the rate of growth of production. If the rate of increase of production slows up, as it generally does in the course of business expansion, this will tend to cause the rate of investment in inventories to fall.

Thus, there was no reason to expect the recovery from the Great Depression to be complete. As a matter of fact the upswing from 1932 to 1937 was the longest expansion recorded in this country since the Civil War, and it was characterized by a far more rapid rate of expansion of national income than took place in any of the business expansions since at least the World War. Net national income rose at the rate of 5.04 billion dollars a year during the expansion 1932-37. The highest annual rate observed in any earlier expansion since 1919 was 3.75 billion dollars in the period 1927-29. In the light of these considerations, one may easily think the last expansion less notable for its failure to reach the national income of 1929 as for the fact that it lasted so long, proceeded so vigorously, and was so nearly complete as it turned out to be.

These lines of explanation, however, are rejected out of hand by Professor Hansen. He proposes a third line of explanation:

> We are completing this year a decade of unemployment on a scale never before known in our history. This decade of unemployment was interrupted by a partial recovery which culminated in 1937. This depression is of a magnitude and duration which has eclipsed all others, not excepting even

[41] See Dr. Altman's estimates of the number of people concerned with major investment decisions: *Saving, Investment, and National Income*, monog. no. 37, p. 89.

the deep and prolonged depressions of the seventies and nineties. It is a unique phenomenon. It cannot be explained in terms of ordinary business-cycle analysis. For the time being at least we are experiencing a chronic maladjustment, a failure of adequate outlets for capital expenditures for a society geared to a high savings, high investment level. We are caught in the midst of powerful forces in the evolution of our economy which we but dimly understand. Something has gone wrong with the forces making for expansion. We are undergoing a fundamental change in the structure of our economic life.[42]

Given this conviction, it is natural to stress the importance of broad changes in the character of investment opportunities, to seek causes whose roots are more deep-seated and permanent than those included in the lines of explanation suggested above. Our recent unfavorable record is, in this view, not merely the result of a deep depression made more serious by its conjunction with other special events. It is a symptom of changes and adverse circumstances likely to fashion our economic history for a long time to come. From the standpoint of people less impressed with these circumstances, it is plausible to emphasize the rapidity and duration of our recent recovery and to blame its incompleteness on cyclical factors and special circumstances. From Professor Hansen's point of view it is natural to explain the duration and rapidity of the expansion by the fact that we had suffered a deep depression and to consider the incompleteness of the recovery as a symptom of more profound causes.

The large capital outlays on industrial plant and equipment in 1936-37 may appear surprising if one accepts my thesis with respect to declining population growth and the lack of important new industries. One must remember, however, that we had passed through a long period of deep depression, so that there had accumulated a considerable volume of depreciation, depletion, and obsolesence, together with the new capital requirements which the rising national income stimulated, but new developments were not available on a sufficiently large scale to sustain for long the high capital outlays of 1936-37, or to push them to sufficiently high levels in view of the lag, particularly of residential building."[43]

Professor Hansen's views about the change in our economic circumstances, the effects of which he believes we are now feeling and are likely to continue to feel during many yars to come, are not unfamiliar. The nineteenth century, he would urge, was preëminently the time when the shop gave way to the factory, hand labor to machinery, and steam power to electrical power. It was also a time of immense improvement

[42] Hearings, Pt. 9, *Savings and Investment*, p. 3503.

[43] From Professor Hansen's testimony, *ibid.*, p. 3515.

in means of transportation and communication which involved enormous investments in their own development and which also made possible the migration of large populations and the exploitation of new resources in the most distant parts of the world. All this technical change and exploitation of newly discovered resources manifestly provided great and growing opportunities for investment.

Concomitant with all this growth of wealth went an accelerating rate of increase in population. As an explanation of the abundance of investment opportunities during the last century, the growth of population is apparently of even greater importance in Professor Hansen's view than were the other characteristics of the period. To this rapid growth of population Professor Hansen attributed the optimistic and venturesome spirit of the capitalists of the time. Overinvestment had to be short-lived in a situation which would soon demand ever greater outfits of plant.

The situation today is far different. The rate of increase of population during the last decade was barely half that which marked the one before it. Our most reliable population estimators assure us that it will be still smaller in the future. The deterioration of international economic life makes large migrations of people and capital unlikely in at least the near future. No technical developments whose investment potentialities are as great as those which marked the development of the automobile or of the railroads are in sight to replace these matured techniques.

There seems to be no way at present to choose among the three competing lines of analysis on grounds which would be compelling to an investigator. Indeed, since the various lines of explanation are not mutually exclusive, the job which is really in question is that of assessing their relative importance—in many ways an even harder task. The present writer is certain that Professor Hansen would admit this; indeed, at many scattered points in his testimony he urges the importance of factors which properly have their place in lines of interpretation rival to his own. If his testimony seems one-sided in these respects it is important to remember that it is natural and right to stress the parts of one's story which are novel and unfamiliar to one's hearers.

Professor Hansen's thesis is more a challenge to work than to controversy. It is clear that much needs to be done analytically to clarify the rôle of population growth. How is it supposed to act? To what extent does it influence the demand for investment goods? To what extent are labor costs affected? In what manner does it modify the demand for consumption goods, if at all? How much of its influence is exercised *via* numbers? How much *via* age composition and family composition? Is it a force independent of a growth of national income

from other sources or does it have an expansive effect only when income is growing?

III. The Operation of the Capital Markets

The conditions which affect the use that can be made of funds comprise only part of the determinants of the rate of investment. The organization and operation of the capital markets and the attitudes of the people who trade in them are equally important. The investigations of the T.N.E.C. emphasize two impressive characteristics of the modern American loan market: the massive rôle played by the great savings institutions and the importance of internal financing of business corporations.

1. *The Principal Savings Institutions*

Donald H. Davenport[44] gave evidence on the growth and concentration of the volume of assets held by life insurance companies, savings banks and other institutions for the accumulation and management of private funds. The figures in Table VI abstracted from his materials present the situation as it stood in 1938.

TABLE VI—ASSETS OF PRINCIPAL SAVINGS INSTITUTIONS, JUNE 30, 1938
(In billions of dollars)

Life insurance assets less policy loans	28.8
Time deposits of commercial banks	14.4
Mutual saving bank assets	11.6
Building and loan association assets	5.7
Total assets of private savings institutions	60.5
Governmental pensions and trust funds	6.2
Postal savings deposits	1.3
U. S. savings bonds	1.2
Total public savings funds	8.7

By tabulating the rate of growth of the assets of these institutions Dr. Altman was able to indicate that a major portion of individual savings now finds its way into the life insurance companies and banks listed in Table VI above.[45] Dr. Davenport presented evidence concerning the degrees of concentration of assets in the hands of these institutions. He found that at the end of 1937 over 50 per cent of the assets of life insurance companies were under the control of the five largest organiza-

[44] *Ibid.*, pp. 3726-74.

[45] *Saving, Investment, and National Income*, monog. no. 37, p. 32.

tions and over 80 per cent under the control of the sixteen largest. Similarly, the 25 largest mutual savings banks held over 40 per cent of savings bank assets at the end of 1938. The 8 largest commercial banks controlled over 20 per cent of the assets held by this class of institution at the end of 1938.

Dr. Davenport was impressed, too, with the extent to which the assets of these institutions were concentrated geographically. This seems clearest and most significant in the case of the life insurance companies which gather their funds from all parts of the country but are located principally in New York and other northeastern states. At the end of 1937 he found that over 75 per cent of life insurance assets were held in New York, Philadelphia and New England.

These compilations of the volume of assets held by savings institutions give particular point to the elaborate investigations conducted by the T.N.E.C. into the operations of the life insurance companies, the largest by far of the group.[46] A great part of the results is no doubt relevant to the investment policies of mutual savings institutions and commercial banks. A convenient summary of the most significant portions of this testimony, so far as it affects the operation of the capital markets, is presented in Dr. Altman's monograph.

An examination of the portfolios of life insurance companies and the testimony of company officials revealed a not unexpected concentration of investments in the securities of relatively old companies whose affairs are more easily investigated and whose safety is least open to dispute. The emphasis upon safety of principal is of course reinforced by legal requirements imposed upon the investment policies of insurance companies. The emphasis upon the securities of our larger and older companies may be a consequence in part of the managerial interrelations between insurance companies, commercial banks and the largest industrial corporations.

Particular companies appear to concentrate their assets in particular forms of investments or in particular sections of the country to the exclusion of other forms and other regions. Thus, one company handles no rural mortgages. Another has a great part of its mortgage portfolio invested in New York City mortgages alone. The explanation is not far to seek. To handle a given class of investments efficiently requires the establishment of an elaborate staff of officials. Specialization upon particular types of investment in particular localities helps to reduce the cost of management. But these facts serve to cast doubt upon the extent to which the concentration of assets in large savings institutions

[46] Pts. 4, 10, 10A, 12, 13, and 28 of the Hearings are concerned with various aspects of the life insurance business.

secures an efficient distribution of loanable funds to the borrowers best able to use them. There can be no question that such specialization must serve to reduce the degree of competition among insurance companies for investments.

Competition for investments is affected, too, by the concentration of assets in the hands of a few large companies. Dr. Altman pointed out that the cash holdings of the 26 largest legal reserve life insurance companies increased by more than 500 million dollars from 1929 to 1938 and that all the executives who were questioned agreed that their cash holdings were greatly in excess of the amount normally required in the business. They claimed that inability to find investment outlets enforced this inconvenient liquidity.

Dr. Altman remarks cryptically: "It would be to the advantage of any one company to invest its surplus cash; and if other companies followed suit, the competition would undoubtedly have a marked effect upon both long- and short-term interest rates."[47]

The significance of this possible absence of competitive fervor is far wider than is suggested by the size of the surplus cash holdings of the insurance companies. Nearly 19 per cent of their total assets were invested in United States government bonds at the end of 1938. If insurance companies hesitated to dispose of their cash for fear of reducing the yield on interest bearing assets, how much more would they fear to disturb the prices of government bonds by selling them and of corporate bonds by buying them?

There can, of course, be little doubt that the large insurance companies are so large that their investment policies are affected to some degree by fears of spoiling the market. But their accumulations of cash in recent years hardly clinch the point. In a period of extraordinarily low interest rates, it is hardly surprising to find large investors holding a great deal of cash and, indeed, of loans of near-by maturity against the chance that interest rates may rise in the near future.

The general significance of these aspects of insurance company operation, moreover, remains questionable in view of the quantities of assets held outside life insurance companies and, indeed, outside all of the principal savings institutions. Dr. Davenport referred to the estimate of the Securities and Exchange Commission that individual and corporate trustees held assets of about 50 billion dollars at the end of 1938. In that year, too, the still expansible assets of commercial banks (less an amount required to cover deposits in savings departments) came to 42.4 billions and an unknown but undoubtedly immense volume of assets was directly controlled by individuals.

[47] *Saving, Investment, and National Income,* monog. no. 37, p. 44.

2. *Internal Financing of Business Enterprises*

The extent to which business depends upon the capital markets for its financing is generally overemphasized. Dr. Altman[48] presents estimates which compare the gross savings of business enterprise with George Terborgh's estimates of outlays for plant and equipment. The figures presented make it clear that during the period covered, 1923-39, by far the major part of plan and equipment expenditures were financed by the internal funds of business.

Dr. Altman also presents Arthur Hersey's figures on the sources and uses of funds for 58 large industrial companies which cover roughly one-fifth of all manufacturing and mining. During 1930-39 these companies required the use of 5.5 billion dollars almost entirely for investment in plant and equipment. Only 10 per cent of these funds were secured from sources outside of the companies themselves. Gross savings provided 83 per cent of the required amount and the conversion of assets supplied the remainder.

Dr. Altman poses a dilemma. It seems clear that the larger and the better established firms in the United States have little need to borrow funds in the open market. But it is these firms which have the easiest and cheapest access to the capital markets as these are now organized. It is not clear that, as the capital market now functions, the job of putting savings of individuals into the hands of willing borrowers is efficiently performed.

IV. The Remedies Proposed

None of the witnesses or monographists undertook to set out a systematic statement of the policies which they considered to be most effective in filling the gap between the quantities which they believed people would wish to save and invest at high levels of income. Professor Hansen and Dr. Altman, who came closest to doing so, were both more concerned to state the nature of the problem to be met than to prescribe a detailed course of action. Thus, we are told at many points that if private investment, in the ordinary course, is not sufficient to offset savings at high levels of income our policies must be directed to increasing private consumption, stimulating private investment, augmenting private consumption by communal consumption, and private investment by public investment.

The statements of these writers about specific policies indicate a tolerance for most, if not all, of the chief devices for securing these objectives which have been proposed in recent years.

[48] *Ibid.*, p. 57.

Both Professor Hansen and Dr. Altman agree that our system of taxation requires overhauling primarily to reduce the burden which our levies now place on consumption. They would reduce excise and pay roll taxes and raise the required sums by increased taxation of the middle income groups.[49]

Professor Hansen argues that private investment can and should be stimulated by measures designed to remove those aspects of the corporate tax structure which have repressive effects upon expansion;[50] by securing "stable and responsible labor relations";[51] and by requiring "adjustment of prices to the lower costs springing from technical improvements in order to tap potential demand and thus secure larger output, and thereby also larger capital plant and equipment expansion."[52]

Dr. Altman and Professor Hansen both point to certain obstacles in the way of increased building construction: unduly high interest rates, monopoly prices for labor and materials, inadequate supervision of construction, cumbersome foreclosure and tax sale procedure.[53]

Dr. Altman emphasizes the lack of a capital market adequately organized to supply the needs of small and medium sized business.[54] In this connection Adolph A. Berle's suggestion that a new set of commercial banks be created specifically to furnish longer term credit than our present commercial banks habitually do is of interest.[55]

Finally, public spending to augment private consumption and investment is strongly urged by these witnesses.

Among these many proposals for reform and action, heaviest emphasis was placed upon two lines of action: first, a reconstitution of the tax system to reduce the communal propensity to save; and, second, public spending to augment the volume of investment. The discussion of the second of these proposals need not detain us long. In the T.N.E.C. testimony the efficacy of public spending is taken for granted, its limitations neglected. Certainly nothing was presented which advanced the argument so heatedly pursued in the last decade. The policy of tax reform, however, deserves a longer glance because its potentialities can be somewhat illuminated by the use of the T.N.E.C. materials.

[49] Hearings, Pt. 9, *Savings and Investment*, p. 3556.

[50] *Ibid.*, p. 3544.

[51] *Ibid.*, p. 3556.

[52] *Loc. cit.*

[53] *Saving, Investment and National Income*, monog. no. 37, p. 101.

[54] *Ibid.*, p. 102.

[55] Hearings, Pt. 9, *Savings and Investment*, pp. 2809 *ff.*

1. *Potentialities for Increasing Consumption by Tax Reform*

The estimates of tax burdens and savings by income groups presented by Dr. Colm and Miss Tarasov[56] make possible some preliminary guesses about the effect of a redistribution of tax burdens upon individual savings. The Colm-Tarasov figures are, admittedly, extremely rough estimates of the distribution of income, savings and tax burdens. The authors are careful to emphasize their dependence upon inadequate samples, extrapolation in time and indirect evidence. Estimates of the effect of a redistribution of tax burdens upon savings will, of course, inherit all the errors of the basic data and add some of their own. It seems wise, nevertheless, to attempt to secure some notion in quantitative terms of the probable consequences of a program of tax reform.

Rough calculations by the present writer indicate that a truly enormous shift of taxes from the relatively poor to the relatively rich would be required to effect a substantial reduction of savings. In the fiscal year 1939, the year to which the Colm-Tarasov figures refer, the present writer estimates that a 30 per cent reduction of the amounts people desired to save (aggregate income being constant) would have involved the extinction of all taxes on the incomes of families earning less than $2,000 a year and the distribution of this burden among higher income groups.[57] The groups so relieved of taxation contributed in 1939 no less than 45 per cent of total tax revenues. Moreover, since the taxes on the lower income groups are levied mainly by states and local govern-

[56] *Who Pays the Taxes?* monog. no. 3.

[57] The calculations upon which these results are based involved the following major steps: (References are to Colm-Tarasov, *op. cit.*)

1. The tax burden borne by families earning less than $2,000 in 1939 was distributed among the better-paid groups. This was done in two ways: first, in proportion to the total income earned by these groups, and, second, in proportion to the taxes actually paid by these groups. The first assumption places a heavier relative tax burden on the middle income groups than they now bear. The second assumption maintains the degree of progression which now prevails for groups earning over $2,000.
2. Total income *per capita* after taxes was then calculated for each income group before and after redistribution of the tax burden. For this purpose, estimates of the number of families in each bracket found in Table C, p. 42, were utilized.
3. The amounts actually saved by each income group were found in Table 1, p. 6, and the percentage which savings were of income after actual taxes calculated for each group.
4. The rate of increase in percentage of income after taxes which was saved for each dollar of increase of per capita income was then found by dividing the differences in percentage of income saved by successive income groups by the differences between income brackets in income per capita after taxes.
5. These figures were then used to calculate the change in percentage of income saved due to the changes in income associated with each assumed redistribution of the tax burden.
6. Finally, the percentages gained (from 5) were applied to the total income after taxes in each income bracket after redistribution of the tax burden.

The amount actually saved in 1938-39 as estimated by Colm was 7.97 billion dollars. The two methods of redistributing the tax burden used above indicated reductions of savings of 26 per cent and 31 per cent respectively.

ments, what is involved is nothing less than the stupendous task of local rather than of national fiscal reform.[58]

A redistribution of the tax burden, moreover, meets more than administrative difficulties. Its objective for our present problem is a reduction of the realized income of the rich, a transfer of the proceeds to the poor. By their very nature, however, progressive income taxes operate as an attack not only on high *realized* incomes but also as an attack on the *prospective increases* in income which people hope to secure by investment. Thus, while a more progressive system of taxation should operate to increase the rate of spending, it should also operate to decrease the rate of investment. These difficulties, administrative and theoretical, make the possibilities of securing a substantial net increase of national income by tax reform appear more modest than they are usually assumed to be.

Tax reform, however, is not the only way to secure an increase in our average propensity to consume. The elimination of monopoly controls and restrictions, by reducing profits, operates in the same direction. Moreover, this process, while it tends to reduce profits and therefore savings, also acts to increase investment. As such, it is a useful supplement both to a program of tax reform and to a program of public investment.

This double-barreled influence of an increase of competition deserves more stress than it appears to have been given in the materials reviewed. The pages which follow are, therefore, offered as a statement of the connection between competition and the propensities to save and invest. This statement is in no sense an attack upon those who contributed to the valuable work of the T.N.E.C. Its purpose is simply to add a useful rider to their efforts.

2. *The Monetary Consequences of Competition*

First to be discussed is the effect of monopoly restrictions upon the rate of investment. The consequences which may be expected from

[58] A simple increase of income taxation would, of course, eat still further into savings, provided the burdens fell largely on the relatively rich and the benefits accrued largely to the relatively poor. In a note entitled "The Incidence of an Income Tax on Saving" (*Quart. Jour. of Econ.*, Feb., 1942, pp. 337 *ff.*), Professor Abram Bergson presents estimates of the effect upon saving of an increase in income taxation amounting to 5 per cent of incomes received in the fiscal year 1936. Proceeding by methods somewhat similar to those described above, Professor Bergson finds that an additional tax of this magnitude would have reduced savings by 30.1 per cent if levied in such fashion that the then existing degree of tax progression was maintained. Had the tax been levied so as to maximize the reduction of savings, the decline in savings would have been 32.3 per cent. Professor Bergson is careful to point out, however, that these figures overstate the magnitude of results to be expected. No allowance is made for the effect upon incomes of the expenditures of the additional revenues or for any possible decline in investment consequent upon an increase in income taxation.

the establishment of a more intense degree of competition may conveniently be discussed under two heads: first, the initial consequences which are involved in the process of establishing freer competitive conditions; and second, the longer run aspects of the comparative attractiveness of investment in relatively monopolistic and relatively competitive markets.

If competition can be made more free, the rate of investment is likely to increase initially for three reasons.

One aspect of the improved situation will be a reduction in the obstacles facing firms which wish to share in the opportunities afforded by hitherto profitable industries. We should, therefore, expect investments to be made by newly organized firms previously excluded from tempting markets.

A second consequence of more intense competition is an increase of aggregate output. This is the result of two factors associated with competition: lower prices and increased cost of output. Lower prices have an obvious and direct effect upon amounts purchased. An increased cost of output operates indirectly. It constitutes a shift of income from profit makers to their hired factors of production and should act to raise the ratio of national income spent.

Now it seems reasonable to assume that the production of a greater volume of goods will necessitate the use of a greater volume of fixed equipment. There would seem to be but one important qualification to be borne in mind. To the extent that commodities were previously produced by firms operating at other than the optimum scale of output, competition which involves an approach to the optimum scale of output per firm will act to reduce the amount of resources required to produce a given output. And this factor will tend to offset the effects of the increased production of goods.

The process of establishing freer competitive conditions will make its influence felt on the rate of investment in still a third way. More intense competition will serve to reduce the prices not only of consumers' goods but also of producers' durable goods. Any decrease in the price of producers' durable goods should lead business men to increase their total real investment in these goods.

So far we have been discussing the initial effects upon investment of an increase in competition. The effects in the long run turn on a somewhat different set of considerations. As a continuing matter, investments may be said to be occasioned in seven principal ways:

1. New resources are found or made accessible and are drawn into production when the necessary funds are laid out.

2. Improved techniques of production are found and more efficient

equipment invented, the exploitation of which involves an investment of capital.

3. New products are devised and offered for sale; and this usually, though not always, involves an investment of funds.

4. Relative prices of equipment and labor and of equipment of different sorts change and thus new methods of production become profitable.

5. Demand shifts from one sort of commodity to another and this may sometimes involve investment at a rate greater than the depreciation of equipment in the lines adversely affected by the shift in demand.

6. The exploitation of new resources and of cost reducing improvements, by lowering costs of production, acts to increase the total real income of the economy and this, in turn, creates opportunities for investment.

7. Finally, in industries in which the obstacles to investment are not too great, constant attempts to establish a profitable niche for themselves are made by eager investors.[59]

We turn now to consider how freer competitive conditions will influence the rate of investment in connection with each of the opportunities for investment mentioned above. It is clear to begin with that profitable opportunities to bring new resources into use are far greater in situations in which the obstacles to securing a market are minimal than in conditions where these are great. In the perfect market of theory where obstacles to entry are completely absent, it will pay new firms to exploit newly discovered or more accessible resources whenever the average total costs of production, using the new resources, fall below the average total costs of production for firms operating under the previously existing conditions. By contrast, firms already operating find it profitable to exploit new resources only when their use drives average total costs of production below prime costs in the previously existing situation. Any expense involved in establishing a market for a potential producer with new resources serves to increase the degree to which the new resources must make possible a reduction in costs before their exploitation is profitable.

Exactly the same comments apply to the question of the introduction

[59] Some substantial portion of our annual rate of net investment must be accounted for by these last mentioned attempts, successful and unsuccessful, to secure a business market. Of course, to the extent that these attempts constitute a net inflow of resources into an industry, we have already taken them into account in the section dealing with the initial effects of establishing more competitive conditions. There is an additional point here, however. An investment of $1,000 that forces the abandonment of an investment worth an equal amount increases the demand for investment goods by $1,000; it decreases the demand only by the annual rate of depreciation on investments of the character in question.

of newly devised and more efficient machinery or techniques of production. So far, then, as the discovery of new resources or techniques is independent of the degree of competition, it is clear that in relatively competitive conditions there is a greater incentive to exploit these emerging opportunities than exists in relatively monopolistic markets.

The availability of these opportunities, however, is probably not independent of the degree of competition. In the first place, it would appear that the search for new resources and new techniques would be fostered by the existence of open markets in which their products could be sold. As a protective measure, firms threatened by the possibility of such discoveries would try to make them themselves.

On the other side, it may be urged that large firms will be better able to accept the risks attendant upon research and exploration than will small ones. It is not clear, however, that in all cases, or even in most cases, an increase of competition would involve a decrease in the size of firms. But even if it be admitted that a split-up of large firms would reduce the amount of funds which the successor organizations would devote to research, the very same conditions are likely to see the organization of enterprises specializing in the work of exploration, scientific and geographical. Moreover, a well-conceived governmental policy looking to the disestablishment of monopoly might well carry, as one of its corollary features, an increase in the amount of government funds devoted to the pursuit of industrial research.

Similar considerations are involved in the case of investments designed to bring new products to the consuming public. In this case, a new producer will find it profitable to offer an improved product whenever he considers that its sale will cover its average costs of production, including such promotional costs as are necessarily involved. Any obstacles which existing firms can put in his way serve to discourage the investment. So far as existing producers are concerned, the obstacle to offering new products consists, in some part, in the fact that the new products will serve to take demand from their older commodities. A more important obstacle, however, is the fear that an improved item may not meet success because competitors will be induced to offer similar products. The strength of such obstacles varies directly with the size of firms relative to the size of the market area in which they operate and with the effectiveness of agencies for promoting exploitative coöperation among producers.

It is clear that the incentive to invest in order to promote new products is weakened by the existence of monopolistic arrangements. But qualifications should be attached to this statement similar to those made in the case of investment to exploit new resources or techniques. While

the incentive to promote new products is greater in competitive markets, it is not certain that the funds devoted to their discovery and perfection will be so great.

We must next consider the effects of changes of relative prices. Such developments make the immediate introduction of modified methods of production profitable for new firms. For established firms this is true only if total costs using the new methods are lower than prime costs with the old. It is certain, therefore, that investment will respond to changes in relative prices more continuously and completely in industries into which entry is easy than in those into which entry is difficult.

The fifth and sixth occasions for investment, increases of aggregate demand and shifts in the direction of demand, may be conveniently considered together. In neither case is the result clear. The response of investment either to an increase of demand in industry as a whole or in particular industries would seem to depend on two considerations: (1) the effect of an increase in demand upon output in an industry organized in monopolistic fashion as compared with the effect of the same increase in a competitive industry; (2) the relative effect upon investment of a given increase in output in the two situations.

While it may be argued with a high degree of plausibility that output in a competitive industry would be greater than in a monopolistic industry, it is not clear that an increase of demand would result in a greater increase of output under competition than under monopolistic conditions. Nor is it quite clear that a monopolistic industry would make a greater or smaller investment in response to a given increment of output than would a competitive industry. The character of the conditions of supply of equipment and of other factors of production to the industry will determine the issue. This section of the argument, therefore, reaches inconclusive results.

Seventh and finally, it is clear that a general reduction of obstacles to the entrance of new firms into industry will increase the demand for investment goods from that routine category of enterprisers who are constantly seeking by repetitive methods to secure an established place in industry.

The weight of the argument thus far has been strongly in favor of the notion that the destruction of monopoly controls will make for a higher rate of new investment, both immediately and in the long run. It may be thought, however, that an important qualifying circumstance has been overlooked, namely, the relative degrees of risk associated with monopoly and competition respectively. Will not business men feel that an increase of competition increases the risks of enterprise; and will they not, in consequence, be less eager to commit their funds?

This may, in fact, be the case; but it is a qualification which attaches to our argument concerning the immediate rather than the continuing effects of an increase of competition.

It was argued above that, if the many real obstacles to investment associated with monopolistic controls were reduced and if the prices of producers' and consumers' goods fell, this would lead to an immediate increase of the rate of investment. It would do so directly because new firms would seek to share in the profits of existing industries and because the prices of producers' goods had fallen. It would do so indirectly because the volume of consumers' goods demanded would have risen in consequence of lower prices and lower profits.

If, however, an attack on monopoly controls enormously increases business men's fear of potential competition, this argument is certainly weakened. Investors previously balked in their desire to join an industry will be less eager to commit their funds when the obstacles in the way of other potential investors are reduced. In extreme instances, it may be supposed that, instead of new firms joining an industry, old ones would withdraw. This seems implausible, but the theoretical possibility cannot be denied. To the extent that it operates, however, the indirect stimulus to investment is also somewhat weakened. The increase of demand which we suggest would flow from the reduction of profits will not be so great. All this, however, does not touch the other sources of immediate encouragement to investment: lower prices for producers' equipment and for consumers' goods in general.

More important is the fact that the degree of fear of potential competition is not a factor relevant to our argument concerning the long-run incentives to new investment. For this purpose we must compare industries which—aside from the emergence of additional opportunities to invest—are in equilibrium, that is, both the relatively monopolistic and relatively competitive groups which we compare are adjusted to the degree of potential competition associated with their respective markets. The question at issue is: Which group (potential competitors included) will respond in greater degree to its emerging opportunities to invest? The argument above indicated that a greater response is to be expected in situations in which potential competitors face fewer obstacles in securing a market or access to materials and equipment.

So much for the relation between monopoly and the rate of investment. Next to be considered is the connection between monopoly and the propensity to save. It has been pointed out that the volume of realized profits is perhaps the most important single cause of inequality in the distribution of income and, therefore, of our propensity to save. An effective attack upon the propensity to save involves an attack upon

high realized profits. The difficulty is to attack the realized profits of existing investments without attacking the prospective profits of new investments. Progressive income taxation falls foul of this hazard; it hits the one, but it fails to miss the other.

As a supplement to, and perhaps in part as substitute for, a program of progressive taxation, consider the claims of an attack on monopoly. It is clear that the destruction of monopoly positions will involve a lowering of the rate of realized profits. It will do so, first, by encouraging the organization of competing firms to share in a given volume of business. This will mean either an increase of average costs of production or else a wider distribution of the same volume of profits. It will act in the same fashion, secondly, by promoting lower prices or higher wages or the expenditure of funds to promote sales.

A lower rate of profits in turn means a tendency to lower *aggregate* profits if the assets carried by industry for a given rate of output are no larger under competitive than under monopolistic conditions. This seems to turn on two conflicting forces. In the first place, monopolistic firms may carry larger or smaller assets than competitive firms producing the same volume of goods. The outcome turns on the conditions of supply of factors which will be different to monopolistic and competitive firms respectively. While total costs for firms of the same size are likely to be lower if the firms are monopolies, there is no general reason to suppose that the economies will be gained in the use of capital assets. So far as this factor goes, then, the outcome is inconclusive. But, secondly, since firms in industries marked by price competition are likely to be operating more nearly at optimum scale than are firms in monopolistic markets, the assets held by an industry for a given scale of output are likely to be smaller in competitive situations. So far, then, as this qualitative argument can take us, we are led to the conclusion that competitive industries are likely to hold a smaller quantity of assets and to earn a lower rate of profit on them. Aggregate profits earned in connection with a given rate of output should, therefore, be smaller under the competitive conditions.

While this merely indicates the direction in which an increase of competition would operate, no one can read the many volumes of T.N.E.C. monographs and Hearings dealing with monopolistic restraints upon business without being impressed by the ramifications of monopolistic controls and the probable extent of monopoly profits.

An increase of competition, then, like an increase of taxation, is an attack upon inequality in the distribution of income. As indicated above, however, it operates by increasing the inducement to invest rather than by reducing it. The profits realized by monopoly act to

increase the rate of saving. The profits made in a competitive industry, it is true, also act to increase the rate of saving, but they constitute an open invitation to investment. To put the matter categorically, a regime of monopoly means high profits which tend to be hoarded; a regime of competition means lower profits which tend to be employed.

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PRESENT POSITION AND PROSPECTS OF ANTITRUST POLICY

By Myron W. Watkins

I—Antitrust at Crossroads

It is a commonplace now that the Sherman act was a product of its time. More than a commonplace, an adage, is *O tempora, O mores*. Admittedly the times have changed. Methods of production have been revolutionized by the advent of electric power, automatic machinery, and industrial chemistry. Methods of distribution have been wrought into a new pattern by the development of advertising, automotive transportation, the radio, consumer finance. The accepted ways of life are not what they used to be. But it does not follow, as some would have it, that therefore the antitrust law of 1890 which still defines the basic policy of American government in the regulation of trade and industry is outmoded, in line for displacement. It may be. Equally, it may not be.

Whether antitrust policy has become an anachronism, however well or ill adapted it may have been to the exigencies of the times which gave it birth, depends, first, upon what one understands to be the essence of that policy as now interpreted and applied, and, secondly, upon what one conceives to be the significance of the changed conditions which now confront us. At what does the Sherman act really aim? What does its enforcement or attempted enforcement actually accomplish? What do the changes in the contemporary economic environment, industrial processes, and commercial practices connote or portend? What do they require by way of apt rules for industrial governance? Preliminary to essaying an answer to these questions, it might be well to inquire briefly concerning the circumstances which have occasioned them.

Undoubtedly a large factor in calling antitrust policy into question was the bitter experience of the long depression in the early thirties. It was not only that revulsion developed toward an economic policy which could not prevent such unprecedented losses and such intolerable misery. There was also the sense of frustration in having available abundant resources, unmatched equipment, and millions of men eager to work—yet idle, withal, for want of an opportunity. A (legally) free market instead of providing an outlet for ingenuity, industry, and enterprise seemed to be a device especially designed for thwarting

native impulses toward economic provisionment. Few there were to protest, therefore, and a multitude to support, the New Deal experiment of shelving a free market, suspending the antitrust laws, and attempting to run industry by a combination of generous subsidies to the "under-privileged" and free-handed sanctions to the "specially-privileged." The results of a policy of self-regulation of industry by majority rule, as exemplified in the N.R.A. codes and their administration, were not as salutary as the sponsors of the movement had hoped. They were still less heartening to the general public. Though the collapse of the N.R.A. left few mourners, there was observable no spontaneous reaffirmation of faith in the efficacy of competitive forces working through free markets to regulate and direct the economy in the interests of the common welfare. Antitrust policy was reinvoked, not because it promised stability and "plenty," but because it was the only alternative ready to hand.

This was shown, in one way, by the institution of a comprehensive Investigation of Concentration of Economic Power by the 75th Congress. The Temporary National Economic Committee was created in hearty response to a Presidential Message of April 29, 1938, which set forth lucidly the grounds for continued exploration in quest of a public economic policy which would afford greater assurance of full utilization of resources without sacrifice of freedom. The extensive Hearings conducted by the T.N.E.C. and the forty-five monographs prepared at its instance are the subject of review in this volume. But at this particular point it is not so much the significance of the data assembled and of the studies made, or of any single aspect of them, to which attention is directed as it is the fact of the survey being undertaken, zealously prosecuted by able men from numerous branches of the public service, and followed with keen interest for three years by the general public. Not since the stormy days of the United States Industrial Commission at the turn of the century has there been evident a popular concern so deep, so wide, and so eager over the issues of public economic policy, over the question: Industrially whither? Manifestly, Antitrust is at the crossroads.

Misgivings growing out of domestic experience have been quickened by the trend of events abroad. The rise of fascist statecraft and the rebirth of economic autarchy have circumscribed the area of free market adjustments and generated cumulative difficulties for prudent investment and provident management by free enterprise in the areas where it is still permitted to function. Indeed, these developments have raised profound doubts that the luxury of freedom can indefinitely be afforded in a world economy ruled so largely by political forces for political ends. These doubts are not allayed by the actual

spectacle of a ruthless regimentation of the economic resources of whole nations, and now of whole continents, for purposes of nationalistic aggrandizement.

The war which was thus bred could not be isolated. As it spread over three-quarters of the globe it steadily became more apparent that more and more warlike preparations for defense from the encroaching menace were required. The national defense program inaugurated in May 1940, and the lease-lend program adopted a year later were the outward expressions of a growing conviction that war, like peace, is indivisible. When, finally, on December 7, 1941, Pearl Harbor was blasted by a treacherous "friend," there was none to gainsay that all-out action on this conviction could longer be deferred. But no more for preparations for war than for the conduct of war itself are free enterprise, free markets, and free competition adapted. These are devices by which the resources of a community may be directed toward ends which reflect the voluntary choices of the individuals composing the community. They tend to supply what men want. But men do not "want" war. If the community is to be prepared for war, still more if it is to win a war, it must put aside the ways of peace and become a warrior: it must give up the vocations it prefers and the goods it wants and concentrate its resources and its energies upon making the implements of warfare. There is no other way to accomplish this effectively, as we learned from experience a quarter-century ago and as current exigencies are teaching us again, than by drafting a common program and taking concerted measures, if need be coercive measures, to secure its fulfillment on schedule.

It is not that the common welfare needs to be invoked only in time of war and may safely be disregarded in time of peace. The common welfare is always paramount. But in a period of emergency what constitutes the common welfare is something very different from what it is in ordinary times. "Plenty" and security are not the same thing. Furthermore, the means to the attainment of these ends differ. For the government not only to sanction free enterprise generally and to make public enterprise an exception, but also to safeguard freedom of access to markets and to enforce competition may be wholly consistent with the promotion of the common welfare in terms of "plenty" and nothing less than a disastrous blunder in other circumstances, when survival is at stake.

This is not to say that antitrust policy, the enforcement of the antitrust laws, can serve no useful purpose in periods like the present. There is still need for vigilant extirpation of privately contrived barriers to enterprise, restrictions on production, and price manipulation. In not all segments of the economy have the exigencies of defense, or will the

exigencies of war, require or lead to a complete supersession of the market. Moreover, the mere fact that the government finds it necessary here, there, or elsewhere, itself to erect barriers to entrance to or exit from a trade, to impose restrictions on production, to establish priorities in distribution, or to fix minimum or maximum prices, provides no license for private interests to fill in the gaps in these regulations by arbitrary or collusive measures of their own. Indeed, one may be justified in concluding from some of the revelations of the Special (Senate) Committee investigating the National Defense Program, not to mention World War experiences, that in these very circumstances there is a special need of vigorous enforcement of the antitrust laws. The opportunities for favoritism, discrimination, predation, and extortion are always at the peak when an economy is operating in high gear, whether or not the acceleration of business activity is induced by war orders. And beyond the jeopardy to consumer interests by direct manipulation of markets thereby facilitated, there is the by no means fanciful possibility of the improvised agencies of administration being imposed upon, having their functions perverted, by combinations of special interests which are still bent upon "business as usual," still nourishing the convenient illusion that the public interest and their interests are always and everywhere identical.

Nevertheless, the obvious and admitted inadequacy of antitrust policy to assure that the resources of the community will be expeditiously and efficiently mobilized for defense and for war has had its share in impairing public confidence in the soundness of that policy. For the deficiencies in our preparedness for war, even after two years of unmistakable warning, were clearly not confined to those of a directly military character. Notwithstanding that its adaptability has been conceived to be one of the primary sources of strength in a free enterprise economy, there was plainly something—stemming perhaps from recent trends in the structural features of the national economy, perhaps from unwonted and obscure forces shaping the operative policies of business, perhaps from emergent tendencies affecting the fundamental human relationships in industry—which resisted and retarded the process of economic adaptation to war. The emergency has only served, thus, to strengthen the conviction that a reëxamination of the very bases of public economic policy is in order.

II—Nature, Objectives and Implications of Antitrust Policy

Antitrust policy rests upon certain assumptions. Just because these assumptions are so often left implicit in its formulation or defense, they warrant summary restatement. It is assumed that men are economic

prime-movers, not passive slaves of circumstance. It is taken for granted that individuals know their own interests and are vigilant in defending them, resourceful in pursuing them. They are not supposed to resign themselves readily to accepting what comes; rather they have the initiative to go in search of what they lack and to persist in the quest, only spurred by each lack overcome. In sum, the human animal is conceived to be dominated by irrepressible inner drives. This may not be the polar opposite of the conception of human nature with which the behaviorists have familiarized us, but it has many elements difficult to reconcile with that view.

It is assumed, in the second place, that the economic environment is characterized by an abundance of opportunities.[1] Nature has not been too niggardly in supplying the raw materials of existence. Natural resources are available to be turned into the means of livelihood by an industrious populace, endowed with a workmanlike bent. In a measure, this condition has doubtless always obtained, but it certainly obtained in a higher degree, considered relatively to the size of the population, in America in the nineteenth century while there was yet a frontier of virgin forests, untracked prairies and untapped mines than it does today.

In respect to technology, the situation presupposed for the effective operation of competitive markets of the type (characterized by a multiplicity of independent enterprises forthrightly contending for patronage) which antitrust policy is designed to implement and promote is one in which knowledge of the accredited ways and means of production is accessible to all, or at any rate to a great many. Not only that, but the capacity for acquiring and applying that knowledge is assumed to be well within the reach of the vast majority. This means that the technical processes prevalent in industry must be comparatively simple and readily comprehensible. The technical equipment required for these processes operating on an economical scale is assumed to be no more extensive than numerous individuals or voluntary groups can command. Handicraft and husbandry come close to fulfilling the technological conditions for a workable antitrust policy of the nature of that with which we are familiar. In the past half century, however, the situation in this respect has departed somewhat markedly from that on which the established antitrust policy is premised. The advances made by modern technology since 1890 have in many fields raised an all

[1] Of course, this does not imply that the society must be "poor," much less that it must be "rich." It has no reference at all to the volume of accumulated wealth. What it does refer to is potential wealth, and this in the form of readily accessible resources, nature's "bounty." The condition might be described otherwise, and perhaps not less significantly, as one of a high degree of expansibility.

but impenetrable barrier to independent enterprise. Only a comparatively few can be expected to master the technical problems or even to acquire an understanding of the esoteric technical jargon of those who do devise the complicated formulae and processes of industries such as rayon, electrical apparatus, or air-conditioning, for example. Quite aside from patent privileges and capital requirements, in a wide range of manufacturing industries technological conditions have severely limited the opportunity to engage in production, however beguiling the profit prospects may be.

On the legal side, antitrust policy has never been self-sufficient. It has always assumed the maintenance by government of the sanctions of property rights, contract rights, and various civil rights. Without these sanctions, without the readiness of public authority to vindicate these private rights whenever they might be invaded or infringed, there could be no competition to be regulated; for there would be no market in which products are voluntarily exchanged. It is manifest that the antitrust laws are no more than a supplement to the law of property, of contracts, of torts, and even of crimes. The type of economy, or of economic behavior, which the antitrust laws posit and seek to cultivate is only a reflection of the type of society which the entire legal system, including the Constitution, is designed to foster and conserve.

The fabric of social-economic institutions in which antitrust policy is rooted is not easy to describe. For one thing, it does not stay put. It changes continually. Yet its changes are not always perceptible. Its nebulous content does not facilitate comprehension of the inwrought design, let alone of the shifting pattern. Settled usages, traditional habits of thought, accredited canons of behavior, sanctioned goals of endeavor—these are the stuff of which the institutional fabric is made up. These are what compose "the American way of life." Just because they envelop and mold our every act, our most transitory thought, they evade analysis. They are taken for granted. In ordinary circumstances, we are too familiar with them, and too unfamiliar with their potential alternatives, consciously to reflect on their distinctive features or to probe their essential meaning. Yet in times of crisis, no less of society than of the individual, self-examination is invited, if it is not indeed imperative.

The institutional scheme of which antitrust policy forms an integral part is one which, may we say, honors the individual. It does not glorify the state. It treats the state as an instrument. It respects the common man's addiction to the pursuit of self-appointed ends. It erects no *summum bonum* other than the sum of the individual "goods" which emerge from the self-directed efforts of a free community. Divergences among these self-directed efforts and differences in these self-appointed

ends are not only tolerated; they are welcomed. The basic framework of government is designed, indeed, far more to safeguard rights than to impose duties. Common sense and common decency, backed by the common will, are trusted to secure, to a workable degree, voluntary accommodation and the mutual, pacific adjustment of conflicting interests. In this fashion the strength and resourcefulness of the individual is cultivated. In this fashion, the capacity of the organized community for survival is fostered by a spontaneous process of continuous adaptation to the ever-changing conditions of livelihood.

All this may be as repellent, to some, as brackish water from a stagnant pool. But it may also have the flavor of well-aged wine. The taste depends upon the palate. That a society so constituted has, or may have, certain elements of rugged strength, a capacity not only for survival but for growth, and a capacity for growth not alone in numbers and in wealth, but as well in cultural amenities and intellectual horizons is attested by the history of the past century. For that matter, it is attested by the record of the past five centuries, to go back no farther. But the question remains: Does it still have, does it have today, in this century, the same survival value it has had in times past? Or has the range of free opportunity become so constricted with the preëmption, exploitation, and exhaustion of natural resources, and with the displacement of a technological use and wont, which were a common heritage by a technology that lent itself to usurpation as a special privilege, that the appeal of self-responsibility and the prospect of self-advancement have lost their hold upon the common man? Can the modern economy much longer be effectively organized in terms of private rights instead of in terms of public duties?

This much may be confidently said: In approaching an answer to these questions account must be taken of the emergence of a deep-seated conflict in the institutional patterns on which contemporary society is organized. On the one hand, business arrangements are made, trade conducted and employment secured within the framework of this traditional "system" of free private enterprise in free markets. The procedure is by way of transactions. The units of economic organization and industrial action are individuals and voluntary associations (corporations, trade unions, coöperatives). The apparatus of industrial government consists largely of three elements: self-control and the mutual checks of competition, supplemented and reinforced by a variety of legal inhibitions, of which the antitrust laws are a conspicuous example. On the other hand, there has grown up within, perhaps one should rather say behind, these forms of business organization an industrial system patterned on the machine technique. The essence of that "system," as of any machine, is deliberate differentiation of func-

tion and artful integration. In so far as any process is conducted on the model of the machine technique, procedure by way of transactions is anomalous. The parts are interdependent. They must be fitted together and operated as a unit. Were needle and bobbin subject to independent controls, the sewing machine would ill serve its purpose. The "free play of competitive forces" among the parts of a machine spells friction, inefficiency, breakdowns.

The intention need hardly be disavowed of arguing that American society *should* be made over on the mechanical model.[2] The point is simply that, in industry, it has for at least a half-century been undergoing transformation in that direction. And the habits of thought and ways of behavior thus engendered cannot be confined to the seven-hour day on the assembly line. *Pari passu* with the advances of the machine technique in industry has come a progressive standardization of ways of life, an increasing social and economic integration, which, whether we like it or not, unquestionably tends to check, or restrain, enterprise. For these developments at once restrict the range of opportunity for individual initiative and weaken the impulse thereto. They tend to devitalize competitive forces and deprive a free market of its *raison d'être*.

All this is not to say that the technological forces making for standardization and integration may not be counteracted. Much less is it to subscribe to the *non sequitur* that whatever is, is right. There was, fortunately, in the proceedings of the T.N.E.C. no disposition evinced to accept the naïve assumptions that, in shaping an economic order, there are any "inevitables" stemming from technology and that a meliorative trend is foreordained by an inscrutable providence. But if a free society is to endure and an economic organization compatible with it to be rebuilt, there is advantage in recognizing the sources and the strength of the antithetical tendencies which pose the problem and which have to be dealt with. To release the vital impulses of a generation which has become habituated to mechanical routine, more will be required than a reaffirmation of old formulae and a revival of familiar expedients.

[2] Perhaps a caveat might not be out of place here, also, against interpreting the foregoing observations as an explanation, much less as a defense, of industrial concentration in terms of technological expediency. The discussion has to do with the significance of the machine technique as a social institution, *i.e.*, as a pattern of human behavior. It is not concerned with the advantages, real or putative, of mechanization of industrial processes and their bearing, actual or alleged, on the growth of Big Business. For those who may be interested, the writer's view on this latter issue has been fully expounded in his book on *Industrial Combinations and Public Policy* (Boston, 1927), chap. 4; in his article on "Large Scale Production," in the *Encyclopedia of the Social Sciences*, Vol. IX, pp. 170-81; and more recently in a memorandum for T.N.E.C., published in *Relative Efficiency of Large, Medium-Sized, and Small Business*, monog. no. 13, as Appendix A.

III—The Scope of Antitrust Policy

In a reëxamination of antitrust policy it is well to recognize, as it was generally recognized in the Hearings and the monographs of the T.N.E.C., that the policy was not designed and does not operate as the exclusive, exhaustive embodiment of public economic policy. It is only one segment of the pattern of industrial government, even though the scope of its application may be broader and its influence on the general welfare, the fruitfulness of economic endeavor, more decisive than those of any other single segment. There are important sectors of economic activity to which it does not apply at all, as in the field of government services. In this sphere, competition may be authoritatively excluded, as in the case of police, postal, and sewage-disposal services. Or, though competition may be tolerated, as it is, for example, in the provision of meteorological information, recreational parks or education facilities, it is not invited, encouraged or vigorously protected.

Somewhat analogous to this situation is that in the broad area of self-directed economic provisionment, including such relatively unbusinesslike occupations as farming, and numerous handicraft trades, for example, painting and sewing. Here, too, competition is tolerated. But it is so far from being relied upon as a regulator of economic behavior that it is not only not encouraged; it is actively discouraged. By A.A.A. programs, soil conservation programs, coöperative marketing programs, and other measures, the government has undertaken to organize collective action and correspondingly to repress competitive effort in agriculture.[3] Similarly, in relation to handicraft trades, indeed in relation to labor employment generally, a governmental policy has developed of protecting, not competition, but voluntary concerted action. This is the essence of the National Labor Relations act, for example. In these spheres, it is true that while there may be formal statutory repudiation of the applicability of the antitrust laws (as by Section 6 of the Clayton act), some vestige of jurisdiction may still be retained thereunder by the courts. Even among farmers and carpenters, collective action that goes beyond mutual self-help and becomes predatory interference with others may be a restraint of trade. But where draw the line? In practice, even this negative element of antitrust jurisdiction is rapidly becoming a shadow without substance.[4] This is not offered as a criticism of the public policy in question. It represents merely a statement of fact.

[3] *Cf.*, Paul T. Homan, "Notes on Anti-Trust Policy," *Quart. Jour. Econ.*, Vol. 54 (1939), p. 73.

[4] See, *e.g.*, *Apex Hosiery Co.* v. *Leader*, 310 U.S. 469 (1940); *United States* v. *Hutcheson*, 312 U. S. 219 (1941); and *United States* v. *Brotherhood of Teamsters*, U.S. Supreme Court, October Term 1941, No. 131 and No. 132, decided March 2, 1942.

There is another large sector of economic behavior and relationships in which antitrust policy may be, one might say, theoretically applicable but in which it is not actually relied upon for the protection of public interests. This is the broad field of public utility services embracing such diverse industries as the railroads, with their enormous fixed capital investments, and radio stations, with little more capital requirements than that represented by a franchise to broadcast on "the air." In these branches of industry, whatever their distinctive economic characteristics may be—and this is a question which deserves more probing than it received either in the T.N.E.C. Hearings (9 out of 37 "parts") or in the supplementary monographs (2 out of 45 "studies") devoted to public utilities—competition is not sought or depended upon, in the main, to control prices, investment, output. A generalization of this kind is not very trustworthy, however. Whereas in the case of the railroads, rates may be rigorously regulated and yet competitive investment sanctioned and competition in service actively promoted and zealously protected, in the case of gas works or telephone systems, competitive investment and service may be forbidden, while in the case of banks, rates and services may not be regulated at all, or at least other than indirectly, though investment is meticulously controlled.[5] The incidence of these several variants of public economic policy in the public utility field, not simply upon the public utilities themselves and their immediate customers, but more especially upon the administration of the antitrust laws and their efficacy as instruments for the governance of trade and industry, deserves far more searching inquiry than it has received from the T.N.E.C. or its experts.

It is true that two special segments of such an inquiry as is here suggested were investigated by the T.N.E.C. These were the incidence of the investment policies and practices of insurance companies and of banking houses upon the capital market and indirectly, thus, upon the opportunities for free enterprise.[6] But even these investigations

[5] There are qualifications. Conciseness and accuracy make opposing demands. Traditionally, bank rates have been subject to usury laws, a nominal limitation. Recently rates *payable* on demand deposits have been subjected to regulation. *Minimum* (capital) investment is prescribed in some jurisdictions; and the effect of charter requirements may be to control in a measure the aggregate volume of investment in commercial banking. But the investment control to which reference is made in the text is primarily that of the *directions* of investment of bank funds, *i.e.*, the purposes for which, or the borrowers to which, loans may be made.

[6] See, in particular, Hearings, Pts. 10, 10A and 12, *Life Insurance;* and Pts. 22, 23 and 24, *Investment Banking.* The provocative *Study of Legal Reserve Life Insurance Companies* by Gerhard A. Gesell, T.N.E.C. monog. no. 28 [Washington, Supt. Docs., 1940], also considers this problem, but only incidentally. The primary emphasis is upon the issue of the consequences, for insurance safety and insurance cost, of the conditions and policies found.

were little more than exploratory. No intensive analysis was made of the potential hindrances and actual obstacles to the maintenance of effective competition in industry from the displacement (partly authoritative and partly contrived) and the perversion (wholly contrived) of competition in these two "businesses affected with a public interest." Beyond this, the T.N.E.C. did little more than scan the issues presented, for example, by the ownership or financial control of pipe lines (public utilities, at least nominally) by petroleum refiners;[7] and it left unprobed the challenging questions raised by the ownership of manufacturing concerns (*e.g.*, Western Electric) by public utilities (in this case, American Telephone and Telegraph), or by the joint ownership and/or control of manufacturing concerns and public utility enterprises, as in the case of the Pullman Company, or of the Aluminum Company of America. This is not to overlook, in the latter connection, the interesting and significant surveys of the wide-ranging interests of such fortune-building families as the Rockefellers, the du Ponts and the Mellons.[8] It is only to insist that the problem of coördinating variant policies of administrative regulation for public utilities with a policy of competitive-market regulation for numerous, diverse trades and industries—when the legal line of distinction seems to run tangentially or even haphazardly across any recognizable economic lines of distinction, and when financial integration recognizes no boundaries or distinctions whatever—is of an importance which has not yet been fully comprehended. It is hardly too much to say that the efficacy alike of administrative regulation of public utilities and of competitive-market regulation of most other lines of business hinges more immediately on the solution of this problem of reciprocal interference and mutual frustration than on almost any other single factor.

One other aspect of this somewhat neglected question of the interrelationship of public utility regulation and antitrust policy may be mentioned. That is the question of the treatment of patents. The position of patented inventions as a species of the genus public utility is not always, in fact is seldom, recognized. But a patent is a franchise,[9]

[7] The subject is discussed sporadically in the Hearings on the *Petroleum Industry*, Pts. 14, 14A and 15.

[8] See, especially, *The Distribution of Ownership in the 200 Largest Nonfinancial Corporations* by R. W. Goldsmith and others, monog. no. 29; and *Survey of Shareholdings in 1,710 Corporations with Securities Listed on a National Securities Exchange* by H. Granby and others, monog. no. 30. Several other monographs touch upon this matter, incidentally, also, *e.g.*, monog. no. 11 on *Bureaucracy and Trusteeship in Large Corporations;* and monog. no. 21 on *Competition and Monopoly in American Industry,* the first, in the course of a stimulating analytical study, the second, in a convenient compendium taxonomically embroidered.

[9] If legal authority be asked for a proposition which is so obvious in logic, it may be found in the following cases in which the Supreme Court has explicitly termed patent

and the possession of a franchise is the mark of a public utility.[10] Public utility regulation is intimately linked with, if it is not, indeed, derived from, the state's franchise-dispensing power. The essence of a franchise is not the privilege accorded to engage in a certain business. It is the restriction, expressed or implied, upon the freedom of others to enter the licensed field, in a word, to compete with the holder of the franchise, at will, and upon such terms as to these others may seem fitting. This is the gist of a patent. It takes out of the public domain a trade, a process, or a product which is, or otherwise would be, open to the public generally,[11] and gives exclusive rights therein to the inventor—actually, today, in practical effect, to his corporate employer. This is distinctly a special privilege.

The curious thing is that the grant of this particular type of franchise has not hitherto been attended with subjection to public regulation, as has the grant of other species of public utility franchises. Though a patent is in its very nature a *special* privilege, created and conferred by the government as a means of advancing what is deemed to be a *public* interest, and is thus logically indistinguishable from a franchise, for example, to broadcast on a specified wave length, for some incomprehensible reason it has continued to be treated, both by Congress and the courts, like property unaffected with a public interest. Whereas the manner of exercise of all other species of property affected with a public interest has long been recognized not only to be properly a matter of public concern but to require, on account of a peculiar susceptibility to abuse, special regulation, latterly reinforced by administrative supervision, the manner of exercise of patent franchises has continued to be regarded as nobody's business—except that of the patentee. And this policy has persisted notwithstanding the fact that the susceptibility to abuse arises in the one case as in the other from the same root cause, the monopolistic privileges conferred by the franchise. The obligation *to serve* the public, the obligation to render that

grants "franchises": *Bloomer* v. *McQuewan,* 14 Howard 539 (1852); *Chaffee* v. *Boston Belting Co.,* 22 Howard 223 (1859); *Seymour* v. *Osborne,* 11 Wall 516 (1870); *Mitchell* v. *Hawley,* 16 Wall 548 (1872).

[10] It is true that not every public utility enterprise may hold, as most of them do, a specific grant of public authority to engage in a given business within a given area upon given terms to the exclusion of certain others (not necessarily all others). There may still be some ferries, for example, which operate without benefit of a formal license or "certificate of public convenience and necessity." Such enterprises might be said to possess a "license by sufferance"; or perhaps the lawyers might find something akin to a common law franchise. In any event, such cases surely belong in what might be termed a marginal limbo.

[11] As stated by the Supreme Court in *United States* v. *Bell Telephone Company,* 128 U.S. 315,370 (1888), "The United States by issuing the patents which are here sought to be annulled has taken from the public rights of immense value and bestowed them upon the patentee . . . as an inclusive right."

service *without discrimination,* and the obligation to limit the charges for that service to *a fair return,* these elementary duties of a public franchise-holder which constitute in law and in reason the indispensable *quid pro quo* for the monopoly conferred by public authority, have all been ignored in the development, one might almost say the lack of development, of a public policy on the exercise of patent privileges.[12]

The consequences of this glaring anomaly, considered from the standpoint of its relation to the efficacy of antitrust policy, are only of late coming to be perceived. The T.N.E.C. has made an outstanding contribution to a better understanding of the deficiencies of public economic policy in the sphere of market regulation by focusing attention upon the pervasive and pernicious influence of the unregulated abuse of patent "rights" in undermining competitive conditions in industry. The facts brought out in the Hearings, Parts 2 and 5, regarding the influence of patent practices on the structure and functioning of the glass industry and the beryllium industry, and a few inadvertent disclosures in Part 3 of the Hearings regarding the restrictive operation of patent cross-licensing arrangements in the communications field, awakened a wide popular interest.[13] The conditions portrayed were so evidently a reflection of a prevalent conception in certain quarters of the business world that patent privileges in effect exempt patentees from the antitrust laws that the Department of Justice was moved shortly thereafter to institute a broad investigation of abuses of patent rights amenable to disciplinary action even without amendment of either the patent laws or the antitrust laws.[14] In the two years since that investigation was started a score of cases involving monopolistic restraints through the use of patents have been instituted, not counting all the separate actions, civil and criminal, founded on the same set of facts.[15]

[12] Compare: *Cotton Tie Co.* v. *Simmons,* 106 U.S. 89 (1882); *Second Paper Bag Case,* 210 U.S. 405 (1908); *Leeds and Catlin* v. *Victor,* 213 U.S. 325 (1909); and *General Picture Co.* v. *Western Electric Co.,* 304 U.S. 175 (1938), affirmed after reargument, 305 U.S. 124 (1938). These are only illustrative cases, exemplifying the worst aspects of our so-called "patent law."

[13] Hearings, Pt. 2, *Patents,* pp. 377-667; Hearings, Pt. 3, *Patents,* pp. 959-69 and 1001; Hearings, Pt. 5, *Monopolistic Practices in Industries, Development of the Beryllium Industry,* pp. 2011-2163. The facts presented in the Hearings on patents were developed through investigations conducted by the Department of Justice, under the direction of Mr. Joseph Borkin and Mr. Hugh Cox, who were commended by the committee for the excellent preparation and effective presentation of the material. Hearings, Pt. 5, *Monopolistic Practices in Industries, Development of the Beryllium Industry,* p. 2163.

[14] See Department of Justice, Press Release, "Investigation of Misuse of Patent Privileges," December 11, 1939.

[15] See U. S. Department of Justice, "*The Federal Antitrust Laws,* with Summary of Cases Instituted by the United States," Cumulative Supplements, March 15, 1941, August 1, 1941, and subsequent releases.

But while the T.N.E.C. Hearings provided some startling revelations on specific abuses of patent franchises, it remained for Professor Walton H. Hamilton in T.N.E.C. monograph no. 31, on *Patents and Free Enterprise,* to trace the sources and probe the implications of "the patent system" as it currently operates. The extent to which and the manner in which it has been perverted from a device for the promotion of advances in the industrial arts to a buttress of the vested interests of vast corporate estates is portrayed with extraordinary insight. Confusion, cross-purposes, and mutual frustration between antitrust and patent law are shown to have suffered the erection of utterly needless obstacles to free enterprise and effective competition which even a better implemented and more zealously prosecuted antitrust policy could scarcely have circumvented. Yet those two elements of public economic policy which have actually been permitted to develop antithetic tendencies clearly might have been so shaped that they would supplement and reinforce one another.

"A situation has blundered into being which calls for drastic amendment. A grant of privilege is conferred upon the inventor in order that the industrial arts may go forward. . . . The . . . 'exclusive right' of the inventor is a right—like all rights, subject to the general law—from which all other persons are excluded. The owners of patents attempt instead to make 'exclusive' mean absolute. . . . Repeatedly it has been argued that 'the patentee is Czar within his domain'; that 'he is under no obligation to deal fairly or obey the law' [quoted from brief for appellee, *Interstate Circuit* v. *U. S.*, 306 U. S. 208 (1939)]. . . . The grant of a patent is intended to protect an invention; in practice it repeatedly operates to block off a whole technology. . . . Thus it has come about that a patent is harnessed to causes it was never meant to serve. It may be used as a shield against public policy, as an immunity to the general law. . . . The net result is a strange anomaly within a democracy. An industry is removed from the control of the market and no substitute is provided for [the?] protection which has been forfeited. There emerges an industrial province completely independent of the authority of the Government. . . . If presently the patent is not brought into accord, free enterprise can survive only on the fringes of a closed economy."[16] The picture thus sketched is no surrealist distortion.

IV—Antitrust Procedure

Though the common law had long recognized a public interest in the processes of market adjustment, it had provided for that interest

[16] *Patents and Free Enterprise,* monog. no. 31, pp. 159-63.

no active, impartial champion.[17] Injuries sustained by private parties from certain types of restraints of trade might be redressed in civil actions for damages, and a restraint might so taint a transaction or relationship as to leave the parties thereto without a remedy for defection or for malfeasance *inter se se*. Perhaps the most distinctive features of the Sherman act of 1890 were the prohibition of privately contrived restraints of trade and the assumption by government of an obligation to discover, prosecute, and punish those who might presume thus to erect barriers to free opportunity in the market.

The policing of trade by public authority with the object of suppressing restraints was a new governmental function. Nevertheless, this novel responsibility was deemed sufficiently comparable to the traditional obligation of government to prosecute crimes against the common weal and to vindicate private rights which might be invaded that the use of the familiar, accredited techniques for law enforcement seemed warranted. Hence the technical devices provided for the implementation of antitrust policy were those suggested by experience. The prosecuting task was assigned to the Department of Justice with authority to proceed either by way of indictment or in equity; and the courts were authorized to entertain suits by those who might be "injured . . . in their business" by illegal restraints and, upon proper showing, to assess treble damages on the offending party. No special investigative body was set up, and no special investigative powers were conferred. No provision was made for official supervision of business practices and trade relationships, with or without regular reporting of their operations by those to whom the law applied. No standards were established for the privilege of engaging in interstate commerce in the corporate form of organization, or for the conduct of business in that sphere, apart from the injunction not to monopolize.

The reasons for the absence of legislative inventiveness, for the adoption of backward-looking procedural devices, are not far to seek. The policy the procedural devices were designed to enforce was itself backward-looking. It looked to the restoration of a pattern of industrial control which was visibly being wrenched, skewed, warped. The situation seemed to be getting out of hand, which is to say the competitive market was not functioning to provide adequate checks and balances among the various private interests which were supposed there, through enterprise, rivalry and bargaining, to reach equitable adjustment, economic equilibrium. The aim was to restore the full vigor of competition.

[17] See, on the deficiencies of the common law in this respect, the author's *Industrial Combinations and Public Policy* (Boston, 1927); *Trade Associations: Their Economic Significance and Legal Status* (New York, 1925); and his article on "The Economic Implications of Unfair Competition," *Iowa Law Review*, Vol. 21 (1936), p. 263.

The hope was that this might be accomplished simply by a minatory measure. In the middle of the most expansive era of American industry to have suggested that "trusts" and "malefactors of great wealth" were anything but adventitious excrescences on a sound body economic, might be symptoms of something more deep-seated, something in the nature of an arrested development of the forms of public control, would have been blasphemy. The theory of Antitrust was that if monopoly were roundly condemned, the occasional intervention of a vigilant public prosecutor backed by the might of majesty would be sufficient to discourage predatory aggression. The flow of investment funds, the output of goods, the movement of prices would proceed thus, unimpeded, in their accustomed channels and at their "natural" levels.

This defective implementation of antitrust policy from its inception has undoubtedly been a large factor in limiting its practical effectiveness. True, in the course of half a century there have been a number of developments, adaptations, and changes in the enforcement machinery originally provided. And in one instance, the establishment of the Federal Trade Commission in 1914, that machinery has been supplemented. Nevertheless, as Professor Hamilton makes clear in his excellent review of these developments in *Antitrust in Action* (monograph no. 16), the general pattern of enforcement procedure has remained essentially unaltered. It was not until 1903 that a separate division was created in the Department of Justice, especially charged with the enforcement of the antitrust laws. While this expedient has unquestionably greatly enhanced the efficiency and continuity of enforcement, it has not exempted the enforcement agency (1) from the binding influence of traditional conceptions and techniques so congenial to the legal fraternity, or (2) from the warping influence of political considerations flowing through a cabinet officer, subject, like his subordinates, to administrative pressure by the terms of this appointment. The establishment of the independent Bureau of Corporations in the same year and of its successor, the Federal Trade Commission, in 1914 provided additional facilities of investigation, and in the latter instance introduced an administrative procedure for the first time into competitive market regulation. But the narrowly circumscribed scope (unfair trade practices) of the administrative powers with reference to the general ambit of antitrust policy and the failure to integrate these auxiliary agencies of enforcement with the work of the Antitrust Division have limited severely the effectiveness of these gestures toward procedural supplementation.

The chief reliance, in fact, in the discharge of the primally important investigative function is still the cumbrous grand jury proceeding where-

in the Division becomes armed with the subpoena power. Thus equipped, and having enlisted the aid of a separate Justice bureau, the Federal Bureau of Investigation, whose operatives are primarily sleuths, trained in the technique and imbued with the traditions of the man hunt, the Division sallies forth to get its man—though the suspect is nowadays commonly a corporation, and the evidence sought relates not to low criminal hangouts and associations, but to business agreements and transactions of which a record or a clue may have been left in office files.

As Professor Hamilton emphasizes, the resort to criminal procedure puts enforcement upon a plane of combat in which the winning of a point through legal technicalities tends to overshadow the end of securing readjustments in business structure and policies which will effectuate the policy of the law. The real issues are prone to be confused and obscured. The negotiation of consent decrees has developed as one expedient for circumventing this handicap. It requires extreme caution and vigilance for effective use, but growing familiarity with the technique suggests that, in default of a more regularized and above-board procedure in which jurisdiction is formally acknowledged and assurance is provided that all cards are placed on the table, it may become a fairly dependable instrument of regulation. But it will always remain a makeshift, bearing the marks of its origin in improvisation.

Of the two civil remedies now open to the government, one, that by way of an action *in rem* for forfeiture of goods in transit, provides so light a penalty and affords such a limited opportunity for effective preparation of the government's "case," that it has seldom been invoked.[18] The other, that by way of a suit in equity for an injunction, is of far more practical value than the first but is subject to serious limitations also. Two of these only will be noted here. First, it affords no means whereby the Department can secure evidence on an other than voluntary or "negotiated" basis. Secondly, the penalties it provides have little deterrent effect since they do not directly penalize officers and directors and since they amount to no more than a requirement of abandonment of objectionable practices or, in the case of dissolution, restoration of the *status quo ante*—usually in part only!

By way of supplement to the existing procedural devices available for antitrust enforcement, it has been proposed that additional civil remedies be accorded the government. These might or might not be of similar character and scope to those now provided by Section 7 of the

[18] Seizure of goods in transit presupposes a clear violation of the statutes by the offending shipper. Where the violation can be readily established, as by a simple examination of the goods (*cf.*, Food, Drugs and Cosmetics act offenses), this may be an appropriate remedy. But it is quite ill-adapted to antitrust law enforcement, since the proof of an offense involves an arduous time-consuming task in assembling the necessary evidence.

Antitrust act in favor of private parties.[19] The T.N.E.C. recommended that they should not be so limited, but should afford a basis for recovery of "forfeits," independently of proof of "damages."[20] In the bill introduced by Senator O'Mahoney[21] in furtherance of this recommendation, it is provided that directors and officers of an offending corporation shall be liable to the government for twice the amount of compensation received by them from the corporation during the continuance of an illegal restraint or "attempt to monopolize." In addition, an offending corporation is itself made liable, in a civil suit, for twice the amount of net income earned by it during the period of antitrust law violation. These additional remedies, if granted, should go far to enhance the respect for the law among business men and increase the efficacy of enforcement.

No attempt will be made here to trace the varying fortunes of Antitrust through the permutations of political administration, through prosperity and depression, through hot and cold seasons of the climate of judicial opinion, through alternations in administrative preference for one or another of the available procedures, formal or informal, lionlike or lamblike. All this has been done so admirably in Professor Hamilton's

[19] Proceeding without supplementary legislation, the government, in its first and only attempt to secure relief via Section 7, was defeated. *U. S.* v. *Cooper Corp.*, 312 U. S. 600 (1941). But it may be doubted that even had it obtained a construction of Section 7, or should it obtain a statutory authorization, enabling it to sue for and recover damages, as private parties may now do when "injured" by a violation of the law, this would reinforce its procedural armory appreciably.

While it has been decided [*Connolly* v. *Union Pipe Co.*, 184 U. S. 540 (1902); *cf.*, *Wilder* v. *Corn Products Refining Co.*, 236 U. S. 165 (1912)] that it is not an adequate defense, in a suit for the recovery of the purchase price of goods delivered, to set up that the seller is engaged in an illegal restraint of trade or constitutes a monopoly, apparently it has never been decided that a buyer who pays the agreed purchase price to a seller monopolizing the article sold may not maintain an action for treble damages, under Section 7, on account of the "injury" sustained by him "in his business" by having had to pay an "excessive," or at any rate a noncompetitive, price. But since the great majority of the cases [see *Wheeler-Stenzel Co.* v. *Glass Jobbers Assn.*, 152 Fed. 864 (1907); *Van Camp* v. *American Can Co.*, 278 U. S. 245 (1929); *Story* v. *Paterson Paper Co.*, 282 U. S. 555 (1931), and cases there cited] in which private litigants have succeeded in recovering treble damages under Section 7 have involved either aggressive, predatory interference with, or discrimination against, the plaintiff's business by the defendant—and not simply a sale of merchandise to the plaintiff at a monopolistically elevated price—if the new civil remedy proposed were no more than an extension to the government of the right of action now accorded private persons by Section 7, it would probably avail the government little. For it may be presumed that few, if any, concerns engaged in violating the antitrust laws, whether by conspiracy or otherwise, are involved in a species of Guy Fawkes conspiracy to "put the government out of business," or hamper it in the conduct of public business.

[20] In a Preliminary Report to Congress, dated July 14, 1939. See *Final Report and Recommendations to the T.N.E.C.*, S. Doc. No. 35 (77th Cong., 1st sess.), p. 40.

[21] S. 2719 (76th Cong., 1st sess.), introduced June 29, 1939. In a statement by Senator O'Mahoney accompanying the submission of the bill, the coöperation of Assistant Attorney General Arnold in drafting it is acknowledged. *Congressional Record*, Vol. 84, p. 8192.

monograph that it would be superfluous again to go over the ground. It suffices to state that the conclusion he reaches that the institution of an administrative process, with the grant (evidently) of wide discretionary powers to the administrative agency, offers the most promising solution to the perplexing problem of enforcement of antitrust policy. The suggestion is frankly based on experience, chiefly in governmental regulation of public utilities.

Without attempting here an exhaustive analysis of the issues raised by this proposal, certain grounds for reservation of judgment on its efficacy and adequacy may be mentioned. (1) Experience in public utility regulation has not been unqualifiedly gratifying;[22] nor does the record of administrative regulation of trade practices by the Federal Trade Commission serve to generate much confidence in an expanded use of the device.[23] (2) There are some distinctive economic characteristics of public utilities, even though these have not always been clearly discerned, definitely formulated, and officially respected.[24] (3) Public utility regulation has been adopted in response to pressing exigencies in particular industrial situations and proceeds, in theory at least, in accordance with specified standards prescribed by the legislature. In contrast, under the instant proposal the administrative jurisdiction would be economy-wide and the range of administrative discretion in defining standards and determining what industries would be subject to one standard and what to another would apparently be unconfined. Not all the forebodings of bureaucracy are fanciful.[25] Finally, for present purposes, (4) the proposal leaves untouched the fundamental issues concerning the patterns and standards of enterprise organization, of the relationships of various interests in the corporate units in which eco-

[22] *Cf.*, Federal Communications Commission, *Proposed Report on Telephone Investigation,* pursuant to Pub. Res. 8, 74th Cong. (Feb. 23, 1938); N.Y. Legislature, *Report of the Joint Legislative Committee to Investigate Public Utilities,* Albany (Feb. 12, 1935).

[23] See Myron W. Watkins, *Public Regulation of Competitive Practices* (3rd ed.; New York, 1940); also, the writer's review of the Federal Trade Commission's *Control of Unfair Competitive Practices through Trade Practice Conference Procedure,* monog. no. 34, in *Am. Econ. Rev.,* Vol. XXI (Dec., 1941), p. 845.

Significantly, Professor Hamilton makes no attempt to relate his proposed administrative agency to the F.T.C., or to base its promise on the latter's record.

[24] See, in this connection, Professor W. L. Crum's penetrating criticism of Mr. Gardiner Means's tendency to minimize the significance of these distinctions in his analyses of financial concentration: W. L. Crum, *Corporate Size and Earning Power* (Cambridge, 1939). For a brief summary of the economic characteristics of public utilities, see the writer's "Economic Prospects of Air Transport," *Pub. Utility Fortnightly,* Vol. IV, No. 6 (Sept. 19, 1929), p. 332. A more extended essay on the same subject is *Economic Basis of Public Interest,* by Rexford G. Tugwell (Menasha, 1922).

[25] See Robert Brady, *The Rationalization Movement in German Industry* (Berkeley, 1933); and the same author's *The Spirit and Structure of German Fascism* (New York, 1937).

nomic activities are actually carried on. It either ignores or, on occasion, accepts as inevitable the prevalent oligarchic organization of industry and attendant oligopolistic market conditions.[26] Can an antitrust policy worthy of the name thus make peace with "monopolistic competition"? Would a "negotiated peace" in this field have any better prospect of enduring than a settlement in that fashion of the parallel conflict between freedom and authority in the political sphere, now being waged on the battlefields?

V—An Attempt at Appraisal

Not all of the shortcomings of antitrust policy in respect to the preservation of vigorous competition and the effectuation of a democratic control of industry are traceable to defective implementation. True, the Antitrust Division has been severely hampered in the attempt to police the whole range of American industry on an annual budget which never exceeded $300,000 prior to 1936 and is even today less than 75 per cent of that of the Railroad Retirement Board! But inadequate appropria-

[26] That such a premise or implication is not logically unavoidable in the advocacy of an administrative set-up which would exercise regulatory powers industry-by-industry in accordance with its own discretion may be conceded. But it is none the less true that in practice the advocacy of such a policy and the acceptance of the conditions described go hand in hand. This was made clear in Professor Hamilton's case, for instance, on the occasion of one of his earliest public espousals of the program in question. See, Milton Handler (ed.), *The Federal Anti-Trust Laws: A Symposium* (Chicago, 1932), which started somewhat of a "feud" on this issue between Professor Hamilton and Professor Frank A. Fetter.

The issue came to the surface in the course of Professor Fetter's testimony on March 8, 1939, particularly in connection with his interrogation by Mr. Jerome Frank. (Hearings, Pt. 5, *Monopolistic Practices,* pp. 1951-82.) Mr. Frank took as the point of departure for his questioning, Exhibit no. 358 (*ibid.,* pp. 2192-2200) a statement prepared by the Federal Trade Commission with which the S.E.C. Commissioner seems to have disagreed sharply.

Mr. Frank's position may be indicated by a brief quotation (p. 1959): "It seems to me that what we need to do is to canvass the possibilities of working, in some industries, with a minimum of the drastic, iron-handed governmental imposition that the word 'regulation' connotes, and see whether we cannot work, *perhaps with some modicum of law*—with a greater quantity of legal apparatus in some industries and less in others—to get the desired end." (Italics supplied.)

Professor Fetter's position may likewise be indicated by a brief excerpt from his testimony (p. 1981), though in both cases a single extract from a long discussion does less than justice to the parties. Responding to a summary of Mr. Frank's suggestion by Mr. Berge, he stated: "If we go far with that thought we are going to have a bureaucratic examination and regulation of each separate industry, whereas I think the N.R.A. is an example of the fact that if there were any regulations of ethical practice that were valid for one industry they were probably valid for all. The notion that you would have a separate ethical code for each one of five or six hundred industries is an absurdity." (The "ethical" adjective might be dropped without misrepresenting Professor Fetter's thought, it is believed.)

This basic issue persists. The Hamilton-Frank thesis is sharply challenged, *e.g.,* in a recent article by Corwin Edwards, "Economic Implications of Business Boundary Laws," *Law and Contemporary Problems,* Vol. VIII, No. 2 (1941), p. 292.

tions and blunt procedural tools are not alone responsible for Antitrust's failure to forefend that concentration of economic power which called the T.N.E.C. into being.

Aside from its diminutive size and poor equipment measured against the mounting scale of the task confronting it, the Division has been charged with the enforcement of a policy which has not always been what it seemed. If the antitrust act was a product of its times, antitrust policy has equally been a product of changing conditions and changing conceptions of what the public interest required. These shifts in the concrete meaning of antitrust policy have in part proceeded from modifications of the outlook and aim of succeeding administrations, as noted above. Perhaps to an even greater extent, however, they reflect shifts in judicial opinion and in legislative policy.

To consider the former influence first, the course of adjudication has in some respects been not only singularly tortuous but markedly obstructive from the standpoint of effectuation of the policy of the law. One, but only one, of the impediments thus put in the way of effective antitrust enforcement is that emphasized by Professor Handler in his *Study of the Construction and Enforcement of the Federal Antitrust Laws* (monograph no. 38). It is the difficulty of extracting from the series of antitrust decisions, and still more from the succession of rationalizing opinions, any definite, dependable criteria of the essential elements of illegality. What part, if any, of the source of this difficulty resides in a judicial, and judicious, hesitancy to make definitive commitments, a timid inclination to hide behind the skirts of the rule of reason, and what part in a deliberate choice of the devious paths of expediency in preference to the straight and narrow road of principle is not clear.

Whatever the explanation, Professor Handler's study conclusively demonstrates that an effort to discover consistency and continuity in the antitrust decisions is foredoomed to futility. The difficulty is not only in reconciling the trend of judicial opinion in cases involving collusive action with that in cases concerning proprietary fusion or monopolistic practices independently framed and followed.[27] The logician must go to some pains to eliminate any trace of conflict between such confederative cases at those of the Window Glass Manufacturers,[28] and Appalachian Coals,[29] on the one hand, and of Trenton Potteries,[30]

[27] *Cf.*, *e.g.*, as did Mr. Justice Brandeis, in dissent, the judgment in the *Harwood* case, 257 U.S. 377 (1921), with the decision in the *Steel* case, 251 U.S. 417 (1920). Or, again, compare the verdict in the *Gasoline Buying Pool* case, 310 U.S. 150 (1940), with the judgment in *General Talking Pictures Co.* v. *Western Electric Co.*, 304 U.S. 175, 305 U.S. 124 (1938).

[28] 263 U.S. 403 (1923).

[29] 288 U.S. 344 (1933).

[30] 273 U.S. 392 (1927).

Sugar Institute,[31] and the Gasoline Buying Pool,[32] on the other. On the status of mergers, it would tax the ingenuity of even the most gifted artist in legal legerdemain to bring into accord the series of decisions running from the Knight case through the Northern Securities, American Tobacco, Standard Oil, Shoe Machinery, and Steel cases to the recent Aluminum decision.[33] The tergiversations of judicial opinion in interpreting the law have surely been a considerable factor in limiting the achievements of Antitrust.

But this is not all. A far more formidable obstruction from this quarter to the effectuation of the policy of the law, if that be taken as the maintenance of genuinely competitive markets, has been the indifference displayed by the courts, in applying the standard established by Congress, to the significance of what may now be termed "conditions of monopolistic competition." Without benefit of economic training, unskilled in economic analysis, and disdaining economic advice,[34] the courts have developed, particularly in applying the rule of reason to mergers, a tolerance of oligopoly which is incompatible with the preservation of forthright competition in the market.[35] The simple fact is that where sellers are few neither collusion nor oppressive tactics are required to stifle competition. No legal casuistry can eliminate the pressure toward price stabilization resulting from canny attention to the marginal revenue curve. No glib phrase making "size . . . no offense" can dispel the telltale evidence of restraint in identical bids,[36] simul-

[31] 297 U.S. 553 (1936).

[32] 310 U.S. 150 (1940).

[33] *U.S.* v. *E. C. Knight Co.,* 156 U.S. 1 (1895).
Northern Securities Co. v. *U.S.,* 193 U.S. 197 (1904).
U.S. v. *American Tobacco Co.,* 221 U.S. 106 (1911).
Standard Oil Co. v. *U.S.* 221 U.S. 1 (1911).
U.S. v. *United Shoe Machinery Co.,* 247 U.S. 32 (1918).
U.S. v. *United States Steel Corp.,* 251 U.S. 417 (1920).
U.S. v. *Aluminum Co. of America,* Equity No. 85-73, in D.C. of U.S., S.D. of N.Y. Decided October 9, 1941.

[34] *Cf., e.g.,* Mr. Justice McKenna's derisive remarks on the testimony of professional economists, in *U.S.* v. *U.S. Steel Corp.,* 251 U.S. 417, 448-9 (1920). Even Mr. Justice Stone in *Cement Mfrers. Protective Ass'n.* v. *U.S.,* 268 U.S. 588, 597-9 (1925) preferred his own improvised analysis of the significance of a delivered price system to that of professional economists with excellent credentials (Professors Fetter and Commons).

[35] To cite only a few representative cases in which the dominance, however obtained, of one or a very few firms has been regarded as not of itself inimical to the policy of the law:
U.S. v. *American Can Co.,* 230 Fed. 859, 234 Fe. 1019 (1915).
U.S. v. *United Shoe Machinery Co.,* 247 U.S. 32 (1918).
Buckeye Powder Co. v. *E. I. du Pont de Nemours & Co.,* 248 U.S. 55 (1918).
Geddes v. *Anaconda Copper Mining Co.,* 254 U.S. 590 (1921).
U.S. v. *General Electric Co.,* 272 U.S. 476 (1926).
U.S. v. *International Harvester Co.,* 274 U.S. 693 (1927).

[36] M A. Copeland, *et al., Governmental Purchasing—An Economic Commentary,* monog. no. 19.

taneous price changes,[37] uniform delivered prices,[38] and sustained price differentials in domestic and export trade,[39] or in sales of the same products for different uses or to different classes of customers.[40]

Nor have Congress and the state legislatures evinced a steadfast determination to uphold antitrust policy. They have not hesitated in deference to the clamor of special interests to grant exemptions, suspensions, and modifications which could not fail to have an obstructive, in some cases a virtually emasculative, effect upon antitrust policy. Since 1914 the trend of federal regulatory legislation is indicated by such statutes as the Shipping act of 1916 as amended by the Merchant Marine acts of 1920, 1928 and 1936,[41] the Webb-Pomerene act of 1918,[42] the Fishing Industry act of 1934,[43] the Bituminous Coal Conservation act of 1935 and its successor, the Bituminous Coal act of 1937,[44] the Robinson-Patman amendment,[45] and the Miller-Tydings amendment.[46] In addition to the foregoing legislation, there is a long list of federal statutes granting virtual exemption from the antitrust laws to agriculture,[47] and the National Industrial Recovery act

[37] See S. Nelson and W. G. Keim, *Price Behavior and Business Policy,* monog. no. 1, *passim;* C. A. Pearce, *Trade Association Survey,* monog. no. 18, *passim;* and C. Wilcox, *Competition and Monopoly in American Industry,* monog. no. 21, *passim.*

[38] See W. G. Keim and Associates, *Geographical Differentials in Prices of Building Materials,* monog. no. 33; J. M. Blair and A. Reeside, *Price Discrimination in Steel,* monog. no. 41; Federal Trade Commission, *The Basing Point Problem,* monog. no. 42; and R. C. Cook, *Control of the Petroleum Industry by Major Oil Companies,* monog. no. 39, pp. 43-44, 48.

[39] See M. Gilbert and P. D. Dickens, *Export Prices and Export Cartels,* monog. no. 6, pp. 74-81.

[40] See S. Nelson and W. G. Keim, *op. cit.,* pp. 80 *ff.,* C. L. James, *et al., Industrial Concentration and Tariffs,* monog. no. 10, *passim, e.g.,* gypsum, p. 39, and plate glass, p. 51; and D. Bertrand, *et al., The Motion Picture Industry—A Pattern of Control,* monog. no. 43, p. 43, *et passim.* See also Brief for the United States in *U.S.* v. *Aluminum Co. of America, cit. supra.*

On the significance of price discrimination in relation to market control, compare J. M. Clark, *Studies in the Economics of Overhead Costs* (Chicago, 1923) chap. 20, and the writer's article on "Price Discrimination" in the *Encyclopedia of the Social Sciences,* Vol. XII, pp. 350-55. While it may be true that sporadic, irregular discriminations may signalize a sort of surreptitious competition in an otherwise monopolistic market, sustained discriminations are hardly compatible with free competition. They are an infallible index of monopoly.

[41] U.S. Code, Title 46, chaps. 23, 24, 24A and 27.

[42] U.S. Code, Title 15, chap. 2, secs. 61-65.

[43] U.S. Code, Title 15, chap. 13A, sec. 521.

[44] U.S. Code, Title 15, chap. 17.

[45] U.S. Code, Title 15, chap. 1, sec. 13, as amended by act of June 19, 1936.

[46] U.S. Code, Title 15, chap. 1, sec. 1, as amended by act of August 17, 1937.

[47] Agricultural Marketing Association act of February 18, 1922, U.S. Code, Title 7, chap. 12.

Coöperative Marketing act of 1926, U.S. Code, Title 7, chap. 18.

of 1933-35 providing generally for an interlude in antitrust enforcement.[48] Nor can one afford to overlook in this connection the headlong, if not heedless, rush of the several states latterly, not only to follow the lead of Congress, but to outdo it—and each other—in sanctioning trade restraints and fettering competitive forces.[49] The cumulative influence of these developments has been a factor of no small moment in frustrating the efforts of Antitrust to effectuate the policy of the law.

It is plain that in the foregoing circumstances, at least, antitrust policy has not met the pragmatic test. The tendency toward concentration of economic power has not been arrested. In some spheres a feudal hegemony has been established and maintained seemingly without challenge, as in sulphur, bearing metals, borax, molybdenum, oxyacetylene, plastics, plate glass, and gypsum.[50] In others, it has developed and persisted despite sporadic and ineffectual efforts to curb manifest restraints, as in steel, tin cans, refractories, cement, aluminum, copper, sugar, nitrogen, radio, motion pictures. In still others domination of the market has survived repeated prosecutions and frequent adverse decrees as in oil, tobacco, lumber, anthracite coal, meat packing, office equipment, and photographic supplies.[51] On the other hand, there

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Tobacco Control act of 1935, U.S. Code, Title 7, chap. 21B.

Agricultural Adjustment acts of 1933 and 1938, as amended, U.S. Code, Title 7, chap. 35, secs. 1281-1406.

Sugar Production and Control act of 1937, as amended, U.S. Code, Title 7, chap. 34.

[48] Act of June 16, 1933, U.S. Code, Title 15, chap. 15, secs. 701-12. Certain provisions were declared unconstitutional in *Schechter Poultry Corp.* v. *U.S.*, 295 U.S. 475 (1935). Compare: L. S. Lyon and others, *National Recovery Administration* (Washington, 1935), and President's Committee of Industrial Analysis, *Final Report* (Washington, 1937), 75th Cong., 1st sess., H. Doc. 158.

[49] Some 45 states now have so-called "fair trade" statutes validating resale price maintenance. See Commerce Clearing House, *Trade Regulation Service*, Vol. II, p. 10001. And 31 states forbid sales below cost and/or similar "unfair practices." *Ibid.*, p. 9002. In addition, numerous states have enacted discriminatory chain-store tax legislation, business boundary laws (limiting the lines of trade in which particular enterprises may engage or types of service they may render), and a wide variety of other measures designed to preserve or advance the interests of local trade or special groups. See "Symposium on Governmental Marketing Barriers," *Law and Contemporary Problems*, Vol. VIII, No. 2 (1941).

These developments were sharply criticized by numerous witnesses in the Hearings, Pt. 29, *Interstate Trade Barriers*. In the monographs they received less attention, and the tone of the treatment was in general more explanatory and less censorious. Compare, J. H. Cover *et al.*, *Problems of Small Business*, monog. no. 17, and B. W. Lewis *et al.*, *Economic Standards of Governmental Price Control*, monog. no. 32, Pts. 2 and 4.

[50] These and other industries listed below are selected at random from those discussed in the Hearings and monographs. The most comprehensive survey, but not the most penetrating and incisive study, of the structural features of industry among the T.N.E.C. monographs is Clair Wilcox's *Competition and Monopoly in American Industry*, monog. no. 21.

[51] It is not to be inferred, of course, that judgments adverse to defendants, whether or not accompanied by dissolution decrees, have had (1) no effect whatever in relation to market control, or (2) the same effect in every instance cited. The detailed analysis of the

are familiar examples, like bituminous coal, cotton textiles, leather, rubber, and shoes, of industries in which competition may be unrestricted, perhaps too severe, but in which in any case the adjustments of supply and demand, the composition of private interests, are not invariably smooth and economically advantageous. Still other industries conform to none of these patterns. The whole range of trades serving essentially local markets may be here tied up in vice-like restraints, there flexibly competitive, elsewhere conducted in a sanguinary rivalry that leaves ruin—or racketeering—in its wake.

Manifestly the diffusion of industrial control at which the Antitrust act aimed has not been realized. The spontaneous assertion of diverse private interests, each accommodating itself to the demands of opposing interests with a minimum of friction, and all held in check within decorous limits by the occasional intervention of Antitrust to admonish an overzealous aggressor or reprove a misguided conspirator, remains a remote ideal. With the years the mobilization of industrial resources, human and material, into ever larger aggregates, with attendant concentration of economic power, has proceeded, not unchecked, but despite the law and administration of Antitrust. New and subtle restraints, perhaps operating in the guise of statistical exchanges, basing point systems, standardization programs, or estimate bureaus, have displaced the old piratical practices and gentlemen's agreements which entailed too much risk of public obloquy and legal penalty. In the corporate labyrinths of big business, management has become further and further divorced from ownership and in its consequent irresponsibility has been enabled to provide amply for its own "social security." Wage-earners have lost much of their independence. They produce, perforce, what they are told to produce, in the way they are told to do it, humbly grateful for the opportunity which a job affords, when one happens to be available, bitterly resentful of the implications of a discharge which comes through no fault of theirs. Consumers may not admit their resemblance to guinea pigs, but, powerless to escape the ubiquitous promptings of advertisement, they find resistance to its appeals an industry of diminishing returns.[52]

changing patterns of control in these industries, and others which might be added, is clearly beyond the compass of the present paper. It requires, indeed, a whole book to make a satisfactory study of even a single branch of, for example, the chemical industries as Professor T. J. Kreps discovered, or at any rate demonstrated, in his work on *The Economics of the Sulphuric Acid Industry*.

Nevertheless, generalizations cannot be avoided altogether if any constructive use is to be made of experience in formulating policy. If the specific generalizations here made were challenged, the answer would be an appeal to the T.N.E.C. record—and, if need be, to whatever data outside that record might be available.

[52] By and large, adequate substitutes for a product appear to be available approximately in inverse proportion to the extent that the claims of its excellence are, may one say, exaggerated. This is hardly a coincidence.

But if Antitrust were implemented with sharper tools and provided with ample resources; if the unwonted vigilance and energy recently displayed in the execution of its police assignment could be sustained; if a better coördination of antitrust policy with other regulatory policies and a more consistent adherence thereto by the lawmakers could be assured; and finally if more definite criteria were developed and more unflinchingly applied by the judiciary—what then? Would Antitrust suffice? Could these more favorable conditions be assured? No one can answer these questions with certainty. But it may be doubted that even if antitrust policy were wholeheartedly supported and firmly enforced by the legislatures, the courts, and the administrative agencies it could, by itself, restore or insure a competition at once forthright and salutary in modern markets.[53] The grounds for that doubt are spread upon the records of the T.N.E.C., through 82 volumes of testimony and reports.

The trouble lies deeper than in mere market-manipulating schemes. It lies in the forms of organization and the mode of functioning of business enterprise itself, from which competitive forces spring or in which they are stifled. Year by year the control of industry has become more of a special privilege. In the corporate units of business enterprise, the interests of investors, the interests of workers, the interests of consumers have been subordinated to the quest of inside cliques for power, prestige, and profits (pelf might be a better word).[54] It is a commonplace that management has been divorced from ownership. The fact is, it has in large measure been divorced from responsibility, and therewith, and to that extent, spontaneous enterprise has been extinguished and competitive forces devitalized. The erratic operation of industries subject to such irresponsible management, with a pattern of control so unbalanced, cannot indefinitely be suffered. Antitrust is not enough.

But Antitrust was never put forward as an ultimate solution of the perennial issue of public policy. It represented no more than an initial step. And it was a beginning in the right direction. It was an assertion that the public interest in the conduct of industry is paramount to any private interest. This was a gesture that needs no apology, a step that

[53] *Cf.*, Corwin D. Edwards, "Can the Antitrust Laws Preserve Competition?" *Amer. Econ. Rev.*, Suppl., Vol. XXX (1940), p. 164.

[54] "The proof of the pudding" is in the exigent circumstances which have constrained the three vital economic interests subordinated to business interests to seek, and a democratic government to grant, each in turn special administrative protection. The S.E.C. was established to safeguard the interests of investors who, in the current organization of industrial control, found themselves disfranchised and defenseless. Likewise, the N.L.R.B. was set up as a means of protection of the interests of labor and the F.T.C. (and several other administrative agencies, such as the Food, Drugs and Cosmetics Administration) in defense of consumer interests.

needs no retracing. It is true that Antitrust has essentially a negative thrust. It can, on occasion, eradicate restraints privately laid on an industry, forbid surreptitious toll-taking on the channels of trade. It has no power to initiate realignments in the structure of an industry which may promise enhanced efficiency, no authority to cultivate new trade practices, selling policies, or investment programs which might stabilize a distraught industry. Above all, it has no mandate to establish standards for the organization of the corporate units of business enterprise which will insure their responsible management, their healthy functioning as the very cells of the body economic. As a licensed physician to the economy, it is limited to the practice of surgery. Fifty years ago preventive medicine was regarded by robust men as vapid quackery. Times change.

Comes the emergency! If Antitrust is not enough, some would say let us scrap it, or at the least let us shelve it, as in 1933. If monopolistic competition, restrictive devices, privately administered prices are so prevalent that, before Antitrust can fulfill its appointed function and provide reasonably adequate defense of minority groups, inarticulate interests, incipient enterprise, the whole structure of industry must be rebuilt, decentralized, perhaps reorganized on coöperative lines, that is too large a task to undertake now, we are told. In so far we are well advised. Wartime pressures, anxieties, fears are not conducive to an amicable reconstruction of the bases of industrial control which in any event must involve some sacrifice of vested interests, considerable tutelage in new responsibilities, and groping accommodation to altered relationships.

But it does not follow from the admission that Antitrust is not enough that it can safely and advantageously be suspended, even in a time of crisis. What a national defense program or a war production program undoubtedly requires is the mobilization, coördination, and direction of industry as a unit. With the issuance and enforcement of government *orders* that this shall be done and that shall not be done, Antitrust has no quarrel and in no wise interferes. But with privately contrived stratagems involving mutually imposed restraints of trade, either beyond the scope of the governmental orders or designed to influence their terms, Antitrust does interfere.[55] Signs are not wanting today that, if vigilant efforts to free the economy of "voluntary" restraints unwarrantedly imposed for the benefit of special interests were abandoned, the experience of 1917-18 and of 1933-35 would be repeated.[56] For the protection of the public interest, which government

[55] See *Annual Report* of Assistant Attorney General Thurman Arnold, in charge of Antitrust Division, for the year ending June 30, 1941.

[56] Detailed studies of specific industries reveal beyond shadow of doubt that expansion

was constituted to safeguard and promote, can reliance be placed upon the patriotic animus and dollar-a-year self-immolation of special interests?

Antitrust is not enough, true. But at least it sets some limits to predacious actions. It cannot assure forthright competition (even if that were everywhere desirable), but it can and does provide a leverage for the promotion of adjustments (in prices, output, investment) toward the competitive standard of full utilization of resources. By freeing industry, in some measure, of the obstructions which have been, and constantly are being, fastened upon it by lopsided patterns of control (undue concentration in private hands of discretionary economic power), its effective contribution to national defense will be by so much advanced. Even more important, by the assurance given a people by its government through a vigorous policy of antitrust enforcement that it is earnestly bent upon making industry an instrument of the common welfare, not a means to the brazen aggrandizement of some special interest, it will fortify their spirit and seal their loyalty for the hard tests which lie ahead. For, after all, support of Antitrust is a pledge of good faith in the avowed devotion to a democratic way of life. No government which is itself founded on the principle of consent of the governed can afford to retreat from that principle in its policy with respect to the control of industry.

For the long run—what then? If this be for the night, "Watchman, what of the morrow?" When the reconstruction of the government of industry upon a genuinely democratic basis can be safely essayed, what shall the model be? Assuming that the Fates grant us that privilege, but without pretension to a foresight adequate to anticipate what the complexion or balance of economic forces may then be, this alone may be ventured. If the goal be accepted of a wide diffusion of industrial control, of a democratic sharing in the responsibilities of industrial government, it will not be achieved by reform from top to bottom. It will come only through reconstruction from the bottom up. So long as the irresponsible management of giant corporations persists, the attempt to preserve competition in the markets through a policy of admonishing the custodians of this privilege to be "good" and not "restrain trade,"

of production of materials vitally necessary for the conduct of the war is in many instances, even now, being geared to military requirements only to the extent that provision of these requirements is compatible with a cautious estimate of the profit-making prospects of expanded facilities. The root cause of these tactics is plain: the reluctance of interested parties to relinquish the restrictive devices or relax the restrictive policies upon which monopolistic gains depend.

"Antitrust investigations during the past year have shown that there is not an organized basic industry in the United States which has not been restricting production by some device or other in order to avoid what they call 'ruinous over-production after the war.'" From *Annual Report* of Assistant Attorney General Thurman Arnold (1941), p. 1.

which is to say through antitrust policy as it stands today, will fall short of the goal.

The *sine qua non* for an effective assertion of the public interest in the conduct of business is the establishment, or if you prefer the re-establishment, of responsible management. That can only be done through a reorganization of the corporate units of enterprise in such fashion that the vital economic interests now disfranchised shall be represented in the councils where, in the first instance, decisions are made, policies formed, operating results determined, and management obliged periodically to account. Such a reorganization can be affected only through federal incorporation.[57] Competition in franchise-granting among the states, their so-called charter-mongering, is incompatible with the erection and maintenance of salutary standards of managerial responsibility.

It is the failure to recognize this basic fact and to appreciate its implications which accounts, one must suppose, for the timidity and temporizing which mark the conclusions of what might have been one of the most significant studies among the T.N.E.C. monographs. The authors of *Bureaucracy and Trusteeship in Large Corporations* (monograph no. 11) find ample grounds for criticism of the manner in which self-perpetuating and self-serving managements have perverted the functions of enterprise. But their conception of how this perversion may be abated is singularly naïve. They would trust to the voluntary acceptance of fiduciary obligations by autocratic managements shorn of none of their privileges, this acceptance to be won somehow through the pleadings and "expectations" of the patient public. The only alternative to "trusteeship" which they envisage is the imposition of "additional control over management" by government.[58] In these circumstances they are apprehensive, and justly so, that "regulation may defeat its own purpose. . . . However, it might be of substantial assistance if some governmental body, such as the Temporary National Economic Committee, would deplore the present tendency. . . . It may not be necessary to enact legislation. . . . We suggest that less drastic means should first be tried. Well-thought-out advice and publicity, for example. . . . A widespread, favorable attitude of mind is a first essential to effective

[57] See the writer's memorandum in *Relative Efficiency of Large, Medium-Sized and Small Business*, monog. no. 13, Appendix A.

[58] Presumably this means a public utility type of regulation. *Bureaucracy and Trusteeship in Large Corporations*, monog. no. 11, p. 123. There is no implication in the discussion in the text above of criticism or derision of the concept of trusteeship *per se*. In fact, a decade ago the writer supported, as he would still support, the development of intra-corporate trustee relationships. See his "Trustification and Economic Theory," *Am. Econ. Rev.*, Suppl., Vol. XXI (March, 1931) p. 54. But it is one thing to impose and enforce fiduciary obligations; it is quite another matter to trust to the slow emergence of quasi-professional standards among business executives.

trusteeship in big business. People must expect and assume that managers will look out for interests other than their own. Managers in their turn will then attempt to live up to expectations."[59]

Such faith may be sublime—or puerile. Whichever it is, not cynics alone will be skeptical of its adequacy to sustain popular patience and good will pending its realization. Realists, too, will have their reservations. It is encouraging to find among those who appreciate the imperative need of supplementing Antitrust, by restoring industry to responsible management, if its wholesome ends are to be achieved, no less a realist than the chairman of the Temporary National Economic Committee itself. His Final Statement is after the model of the President's letter which initiated the inquiry: lucid yet compact, impartial yet discriminative.

> The first and most necessary step is to recognize that we must have a national rule for national business. . . . If we desire to have business carried on by collective units, and it must be carried on thus in the modern world, then we must find the way to make these units thoroughly democratic. Economic freedom and political freedom go hand in hand. Neither can survive without the other, and since . . . in a republic the government of all the people must be able to speak for all the people . . . we have no recourse except to have that government define the rights, duties and responsibilities of the organized agencies which conduct and control the commerce on which its citizens depend for employment and income.
>
> It is idle to think that the huge collective institutions which carry on our modern business can continue to operate without more definite responsibility to all the people of the Nation than they now have. To do this it will be necessary, in my judgment, to have a national charter system for all national corporations.[60]

For those who have not succumbed to stark cynicism from contemplating or experiencing our last two "reconstruction periods," in this evidence of economic statesmanship triumphant over political poltroonery may be found a ray of hope to sustain them through the trials that now beset us, and the still greater trials that lie ahead.[61]

University College
New York University

[59] *Bureaucracy and Trusteeship*, monog. no. 11, pp. 125-33.

[60] *Final Report and Recommendations of the Temporary National Economic Committee*, S. Doc. 35, 77th Cong., 1st sess. (March 31, 1941), p. 681.

[61] The author wishes here gratefully to acknowledge his indebtedness to the following persons who kindly consented to read the manuscript in its original form. Of their criticisms he has endeavored, though doubtless with less success than they might have achieved directly, to take full advantage. Messieurs Moses Abramowitz, M. M. Bober, Joseph Borkin, Corwin Edwards, George J. Stigler, George W. Stocking, and Charles S. Welsh.

APPENDIX A

MESSAGE FROM THE PRESIDENT OF THE UNITED STATES TRANSMITTING RECOMMENDATIONS RELATIVE TO THE STRENGTHENING AND ENFORCEMENT OF ANTI-TRUST LAWS[1]

To the Congress of the United States:

Unhappy events abroad have retaught us two simple truths about the liberty of a democratic people.

The first truth is that the liberty of a democracy is not safe if the people tolerate the growth of private power to a point where it becomes stronger than their democratic state itself. That, in its essence, is fascism—ownership of government by an individual, by a group, or by any other controlling private power.

The second truth is that the liberty of a democracy is not safe if its business system does not provide employment and produce and distribute goods in such a way as to sustain an acceptable standard of living.

Both lessons hit home.

Among us today a concentration of private power without equal in history is growing.

This concentration is seriously impairing the economic effectiveness of private enterprise as a way of providing employment for labor and capital and as a way of assuring a more equitable distribution of income and earnings among the people of the Nation as a whole.

I. The Growing Concentration of Economic Power

Statistics of the Bureau of Internal Revenue reveal the following amazing figures for 1935:

"Ownership of corporate assets: Of all corporations reporting from every part of the Nation, one-tenth of 1 per cent of them owned 52 per cent of the assets of all of them.

"And to clinch the point: Of all corporations reporting, less than 5 per cent of them owned 87 per cent of all the assets of all of them.

"Income and profits of corporations: Of all the corporations reporting from every part of the country, one-tenth of 1 per cent of them earned 50 per cent of the net income of all of them.

"And to clinch the point: Of all the manufacturing corporations reporting, less than 4 per cent of them earned 84 per cent of all the net profits of all of them."

The statistical history of modern times proves that in times of depression concentration of business speeds up. Bigger business then has larger opportunity to grow still bigger at the expense of smaller competitors who are weakened by financial adversity.

The danger of this centralization in a handful of huge corporations is not reduced or eliminated, as is sometimes urged, by the wide public distribution

[1] S. Doc. No. 173, 75th Cong., 3rd. sess.

of their securities. The mere number of security holders gives little clue to the size of their individual holdings or to their actual ability to have a voice in the management. In fact, the concentration of stock ownership of corporations in the hands of a tiny minority of the population matches the concentration of corporate assets.

The year 1929 was a banner year for distribution of stock ownership.

But in that year three-tenths of 1 per cent of our population received 78 per cent of the dividends reported by individuals. This has roughly the same effect as if, out of every 300 persons in our population, 1 person received 78 cents out of every dollar of corporate dividends while the other 299 persons divided up the other 22 cents among them.

The effect of this concentration is reflected in the distribution of national income.

A recent study by the National Resources Committee shows that in 1935-36—

"Forty-seven per cent of all American families and single individuals living alone had incomes of less than $1,000 for the year; and at the other end of the ladder a little less than 1½ per cent of the Nation's families received incomes which in dollars and cents reached the same total as the incomes of the 47 per cent at the bottom."

Furthermore, to drive the point home, the Bureau of Internal Revenue reports that estate tax returns in 1936 show that—

"Thirty-three per cent of the property which was passed by inheritance was found in only 4 per cent of all the reporting estates. (And the figures of concentration would be far more impressive, if we included all the smaller estates which, under the law, do not have to report.)"

We believe in a way of living in which political democracy and free private enterprises for profit should serve and protect each other—to insure a maximum of human liberty not for a few but for all.

It has been well said that, "The freest government, if it could exist, would not be long acceptable if the tendency of the laws were to create a rapid accumulation of property in few hands, and to render the great mass of the population dependent and penniless."

Today many Americans ask the uneasy question: Is the vociferation that our liberties are in danger justified by the facts?

Today's answer on the part of average men and women in every part of the country is far more accurate than it would have been in 1929 for the very simple reason that during the past 9 years we have been doing a lot of common-sense thinking. Their answer is that if there is that danger it comes from that concentrated private economic power which is struggling so hard to master our democratic government. It will not come, as some (by no means all) of the possessors of that private power would make the people believe—from our democratic government itself.

II. Financial Control over Industry

Even these statistics I have cited do not measure the actual degree of concentration of control over American industry.

Close financial control, through interlocking spheres of influence over channels of investment, and through the use of financial devices like holding companies and strategic minority interests, creates close control of the business policies of enterprises which masquerade as independent units.

That heavy hand of integrated financial and management control lies upon large and strategic areas of American industry. The small-business man is unfortunately being driven into a less and less independent position in American life. You and I must admit that.

Private enterprise is ceasing to be free enterprise and is becoming a cluster of private collectivisms; making itself as a system of free enterprise after the American model, it is in fact becoming a concealed cartel system after the European model.

We all want efficient industrial growth and the advantages of mass production. No one suggests that we return to the hand loom or hand forge. A series of processes involved in turning out a given manufactured product may well require one or more huge mass-production plants. Modern efficiency may call for this. But modern efficient mass production is not furthered by a central control which destroys competition between industrial plants each capable of efficient mass production while operating as separate units. Industrial efficiency does not have to mean industrial empire building.

And industrial empire building, unfortunately, has evolved into banker control of industry. We oppose that.

Such control does not offer safety for the investing public. Investment judgment requires the disinterested appraisal of other people's management. It becomes blurred and distorted if it is combined with the conflicting duty of controlling the management it is supposed to judge.

Interlocking financial controls have taken from American business much of its traditional virility, independence, adaptability, and daring—without compensating advantages. They have not given the stability they promised.

Business enterprise needs new vitality and the flexibility that comes from the diversified efforts, independent judgments and vibrant energies of thousands upon thousands of independent businessmen.

The individual must be encouraged to exercise his own judgment and to venture his own small savings, not in stock gambling but in new enterprise investment. Men will dare to compete against men but not against giants.

III. The Decline of Competition and Its Effects on Employment

In output per man or machine we are the most efficient industrial nation on earth.

In the matter of complete mutual employment of capital and labor we are among the least efficient.

Our difficulties of employing labor and capital are not new. We have had them since good, free land gave out in the West at the turn of the century. They were old before we undertook changes in our tax policy or in our labor and social legislation. They were caused not by this legislation but by the same forces which caused the legislation. The problem of bringing idle men and idle money together will not be solved by abandoning the forward steps we have

taken to adjust the burdens of taxation more fairly and to attain social justice and security.

If you believe with me in private initiative, you must acknowledge the right of well-managed small business to expect to make reasonable profits. You must admit that the destruction of this opportunity follows concentration of control of any given industry into a small number of dominating corporations.

One of the primary causes of our present difficulties lies in the disappearance of price competition in many industrial fields, particularly in basic manufacture where concentrated economic power is most evident and where rigid prices and fluctuating pay rolls are general.

Managed industrial prices mean fewer jobs. It is no accident that in industries like cement and steel where prices have remained firm in the face of a falling demand pay rolls have shrunk as much as 40 and 50 per cent in recent months. Nor is it mere chance that in most competitive industries where prices adjust themselves quickly to falling demand, pay rolls and employment have been far better maintained. By prices we mean, of course, the prices of the finished articles and not the wages paid to workers.

When prices are privately managed at levels above those which would be determined by free competition, everybody pays.

The contractor pays more for materials; the homebuilder pays more for his house; the tenant pays more rent; and the worker pays in lost work.

Even the Government itself is unable, in a large range of materials, to obtain competitive bids. It is repeatedly confronted with bids identical to the last cent.

Our housing shortage is a perfect example of how ability to control prices interferes with the ability of private enterprise to fill the needs of the community and provide employment for capital and labor.

On the other hand, we have some lines of business, large and small, which are genuinely competitive. Often these competitive industries must buy their basic products from monopolistic industry, thus losing, and causing the public to lose, a large part of the benefit of their own competitive policy. Furthermore, in times of recession, the practices of monopolistic industries make it difficult for business or agriculture, which is competitive and which does not curtail production below normal needs, to find a market for its goods even at reduced prices. For at such times a large number of customers of agriculture and competitive industry are being thrown out of work by those noncompetitive industries which choose to hold their prices rather than to move their goods and to employ their workers.

If private enterprise left to its own devices becomes half-regimented and half-competitive, half-slave and half-free, as it is today, it obviously cannot adjust itself to meet the needs and the demands of the country.

Most complaints for violations of the antitrust laws are made by businessmen against other businessmen. Even the most monopolistic businessman disapproves of all monopolies but his own. We may smile at this as being just an example of human nature, but we cannot laugh away the fact that the combined effect of the monopolistic controls which each business group imposes for its own benefit inevitably destroys the buying power of the Nation as a whole.

IV. Competition Does Not Mean Exploitation

Competition, of course, like all other good things, can be carried to excess. Competition should not extend to fields where it has demonstrably bad social and economic consequences. The exploitation of Child labor, the chiseling of workers' wages, the stretching of workers' hours, are not necessary, fair, or proper methods of competition. I have consistently urged a Federal wages-and-hours bill to take the minimum decencies of life for the working man and woman out of the field of competition.

It is, of course, necessary to operate the competitive system of free enterprise intelligently. In gaging the market for their wares businessmen, like the farmers, should be given all possible information by government and by their own associations so that they may act with knowledge and not on impulse. Serious problems of temporary overproduction can and should be avoided by disseminating information that will discourage the production of more goods than the current markets can possibly absorb or the accumulation of dangerously large inventories for which there is no obvious need.

It is, of course, necessary to encourage rises in the level of those competitive prices, such as agricultural prices, which must rise to put our price structure into more workable balance and make the debt burden more tolerable. Many such competitive prices are now too low.

It may at times be necessary to give special treatment to chronically sick industries which have deteriorated too far for natural revival, especially those which have a public or quasi-public character.

But generally over the field of industry and finance we must revive and strengthen competition if we wish to preserve and make workable our traditional system of free private enterprise.

The justification of private profit is private risk. We cannot safely make America safe for the businessman who does not want to take the burdens and risks of being a businessman.

V. The Choice Before Us

Examination of methods of conducting and controlling private enterprise which keep it from furnishing jobs or income or opportunity for one-third of the population is long overdue on the part of those who sincerely want to preserve the system of private enterprise for profit.

No people, least of all a democratic people, will be content to go without work or to accept some standard of living which obviously and woefully falls short of their capacity to produce. No people, least of all a people with our traditions of personal liberty, will endure the slow erosion of opportunity for the common man, the oppressive sense of helplessness under the domination of a few, which are overshadowing our whole economic life.

A discerning magazine of business has editorially pointed out that big-business collectivism in industry compels an ultimate collectivism in government.

The power of a few to manage the economic life of the Nation must be diffused among the many or be transferred to the public and its democratically

responsible government. If prices are to be managed and administered, if the Nation's business is to be allotted by plan and not by competition, that power should not be vested in any private group or cartel, however benevolent its professions profess to be.

Those people, in and out of the halls of government, who encourage the growing restriction of competition either by active efforts or by passive resistance to sincere attempts to change the trend, are shouldering a terrific responsibility. Consciously or unconsciously they are working for centralized business and financial control. Consciously or unconsciously they are therefore either working for control of the Government itself by business and finance or the other alternative—a growing concentration of public power in the Government to cope with such concentration of private power.

The enforcement of free competition is the least regulation business can expect.

VI. A Program

The traditional approach to the problems I have discussed has been through the antitrust laws. That approach we do not propose to abandon. On the contrary, although we must recognize the inadequacies of the existing laws, we seek to enforce them so that the public shall not be deprived of such protection as they afford. To enforce them properly requires thorough investigation not only to discover such violations as may exist but to avoid hit-and-miss prosecutions harmful to business and government alike. To provide for the proper and fair enforcement of the existing antitrust laws I shall submit, through the Budget, recommendations for a deficiency appropriation of $200,000 for the Department of Justice.

But the existing antitrust laws are inadequate—most importantly because of new financial economic conditions with which they are powerless to cope.

The Sherman Act was passed nearly 40 years ago. The Clayton and Federal Trade Commission Acts were passed over 20 years ago. We have had considerable experience under those acts. In the meantime we have had a chance to observe the practical operation of large-scale industry and to learn many things about the competitive system which we did not know in those days.

We have witnessed the merging out of effective competition in many fields of enterprise. We have learned that the so-called competitive system works differently in an industry where there are many independent units, from the way it works in an industry where a few large producers dominate the market.

We have also learned that a realistic system of business regulation has to reach more than consciously immoral acts. The community is interested in economic results. It must be protected from economic as well as moral wrongs. We must find practical controls over blind economic forces as well as over blindly selfish men.

Government can deal and should deal with blindly selfish men. But that is a comparatively small part—the easier part—of our problem. The larger, more important, and more difficult part of our problem is to deal with men who are not selfish and who are good citizens, but who cannot see the social and economic consequences of their actions in a modern economically interdependent

community. They fail to grasp the significance of some of our most vital social and economic problems because they see them only in the light of their own personal experience and not in perspective with the experience of other men and other industries. They therefore fail to see these problems for the Nation as a whole.

To meet the situation I have described, there should be a thorough study of the concentration of economic power in American industry and the effect of that concentration upon the decline of competition. There should be an examination of the existing price system and the price policies of industry to determine their effect upon the general level of trade, upon employment, upon long-term profits, and upon consumption. The study should not be confined to the traditional antitrust field. The effects of tax, patent, and other Government policies cannot be ignored.

The study should be comprehensive and adequately financed. I recommend an appropriation of not less than $500,000 for the conduct of such comprehensive study by the Federal Trade Commission, the Department of Justice, the Securities and Exchange Commission, and such other agencies of government as have special experience in various phases of the inquiry.

I enumerate some of the items that should be embraced in the proposed study. The items are not intended to be all inclusive. One or two of the items, such as bank holding companies and investment trusts, have already been the subject of special study, and legislation concerning these need not be delayed.

(1) *Improvement of antitrust procedure.*—A revision of the existing antitrust laws should make them susceptible of practical enforcement by casting upon those charged with violations the burden of proving facts peculiarly within their knowledge. Proof by the Government of identical bids, uniform price increases, price leadership, higher domestic than export prices, or other specified price rigidities might be accepted as prima facie evidence of unlawful actions.

The Department of Justice and the Federal Trade Commission should be given more adequate and effective power to investigate whenever there is reason to believe that conditions exist or practices prevail which violate the provisions or defeat the objectives of the antitrust laws. If investigation reveals border-line cases where legitimate coöperative efforts to eliminate socially and economically harmful methods of competition in particular industries are thwarted by fear of possible technical violations of the antitrust laws, remedial legislation should be considered.

As a really effective deterrent to personal wrongdoing, I would suggest that where a corporation is enjoined from violating the law, the court might be empowered to enjoin the corporation for a specified period of time from giving any remunerative employment or any official position to any person who has been found to bear a responsibility for the wrongful corporate action.

As a further deterrent to corporate wrongdoing the Government might well be authorized to withhold Government purchases from companies guilty of unfair or monopolistic practice.

(2) *Mergers and interlocking relationships.*—More rigid scrutiny through the Federal Trade Commission and the Securities and Exchange Commission

of corporate mergers, consolidations, and acquisitions than that now provided by the Clayton Act to prevent their consummation when not clearly in the public interest; more effective methods for breaking up interlocking relationships and like devices for bestowing business by favor.

(3) *Financial controls.*—The operations of financial institutions should be directed to serve the interests of independent business and restricted against abuses which promote concentrations of power over American industry.

(*a*) *Investment trusts.*—Investment trusts should be brought under strict control to insure their operations in the interests of their investors rather than of their managers. The Securities and Exchange Commission is to make a report to Congress on the results of a comprehensive study of investment trusts and their operations which it has carried on for nearly 2 years. The investment trust, like the holding company, puts huge aggregations of the capital of the public at the direction of a few managers. Unless properly restricted, it has potentialities of abuse second only to the holding company as a device for the further centralization of control over American industry and American finance.

The tremendous investment funds controlled by our great insurance companies have a certain kinship to investment trusts, in that these companies invest as trustees the savings of millions of our people. The Securities and Exchange Commission should be authorized to make an investigation of the facts relating to these investments with particular relation to their use as an instrument of economic power.

(*b*) *Bank holding companies.*—It is hardly necessary to point out the great economic power that might be wielded by a group which may succeed in acquiring domination over banking resources in any considerable area of the country. That power becomes particularly dangerous when it is exercised from a distance and notably so when effective control is maintained without the responsibilities of complete ownership.

We have seen the multiplied evils which have arisen from the holding-company system in the case of public utilities, where a small minority ownership has been able to dominate a far-flung system.

We do not want those evils repeated in the banking field, and we should take steps now to see that they are not.

It is not a sufficient assurance against the future to say that no great evil has yet resulted from holding-company operations in this field. The possibilities of great harm are inherent in the situation.

I recommend that the Congress enact at this session legislation that will effectively control the operation of bank-holding companies; prevent holding companies from acquiring control of any more banks, directly or indirectly; prevent banks controlled by holding companies from establishing any more branches; and make it illegal for a holding company, or any corporation or enterprise in which it is financially interested, to borrow from or sell securities to a bank in which it holds stock.

I recommend that this bank legislation make provision for the gradual separation of banks from holding-company control or ownership, allowing a reasonable time for this accomplishment—time enough for it to be done in

an orderly manner and without causing inconvenience to communities served by holding-company banks.

(4) *Trade associations.*—Supervision and effective publicity of the activities of trade associations, and a clarification and delineation of their legitimate spheres of activity which will enable them to combat unfair methods of competition, but which will guard against their interference with legitimate competitive practices.

(5) *Patent laws.*—Amendment of the patent laws to prevent their use to suppress inventions, and to create industrial monopolies. Of course, such amendment should not deprive the inventor of his royalty rights, but, generally speaking, future patents might be made available for use by anyone upon payment of appropriate royalties. Open patent pools have voluntarily been put into effect in a number of important industries with wholesome results.

(6) *Tax correctives.*—Tax policies should be devised to give affirmative encouragement to competitive enterprise.

Attention might be directed to increasing the intercorporate dividend tax to discourage holding companies and to further graduating the corporation income tax according to size. The graduated tax need not be so high as to make bigness impracticable, but might be high enough to make bigness demonstrate its alleged superior efficiency.

We have heard much about the undistributed profits tax. When it was enacted 2 years ago, its objective was known to be closely related to the problem of concentrated economic power and a free capital market.

Its purpose was not only to prevent individuals whose incomes were taxable in the higher surtax brackets from escaping personal income taxes by letting their profits be accumulated as corporate surplus. Its purpose was also to encourage the distribution of corporate profits so that the individual recipients could freely determine where they would reinvest in a free capital market.

It is true that the form of the 1936 tax worked a hardship on many of the smaller corporations. Many months ago I recommended that these inequities be removed.

But in the process of the removal of inequities, we must not lose sight of original objectives. Obviously the Nation must have some deterrent against special privileges enjoyed by an exceedingly small group of individuals under the form of the laws prior to 1936, whether such deterrent take the form of an undistributed-profits tax or some other equally or more efficient method. And obviously an undistributed profits tax has a real value in working against a further concentration of economic power and in favor of a freer capital market.

(7) *Bureau of Industrial Economics.*—Creation of a Bureau of Industrial Economics which should be endowed with adequate powers to supplement and supervise the collection of industrial statistics by trade associations. Such a bureau should perform for businessmen functions similar to those performed for the farmers by the Bureau of Agricultural Economics.

It should disseminate current statistical and other information regarding market conditions and be in a position to warn against the dangers of temporary overproduction and excessive inventories as well as against the dangers of shortages and bottleneck conditions and to encourage the maintenance of

orderly markets. It should study trade fluctuations, credit facilities, and other conditions which affect the welfare of the average businessman. It should be able to help small-business men to keep themselves as well informed about trade conditions as their big competitors.

No man of good faith will misinterpret these proposals. They derive from the oldest American traditions. Concentration of economic power in the few and the resulting unemployment of labor and capital are inescapable problems for a modern "private enterprise" democracy. I do not believe that we are so lacking in stability that we will lose faith in our own way of living just because we seek to find out how to make that way of living work more effectively.

This program should appeal to the honest common sense of every independent businessman interested primarily in running his own business at a profit rather than in controlling the business of other men.

It is not intended as the beginning of any ill-considered "trust-busting" activity which lacks proper consideration for economic results.

It is a program to preserve private enterprise for profit by keeping it free enough to be able to utilize all our resources of capital and labor at a profit.

It is a program whose basic purpose is to stop the progress of collectivism in business and turn business back to the democratic competitive order.

It is a program whose basic thesis is not that the system of free private enterprise for profit has failed in this generation, but that it has not yet been tried.

Once it is realized that business monopoly in America paralyzes the system of free enterprise on which it is grafted, and is as fatal to those who manipulate it as to the people who suffer beneath its impositions, action by the Government to eliminate these artificial restraints will be welcomed by industry throughout the Nation.

For idle factories and idle workers profit no man.

FRANKLIN D. ROOSEVELT

THE WHITE HOUSE, *April 29, 1938*

APPENDIX B

JOINT RESOLUTION To create a temporary national economic committee[1]

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby established a temporary national economic committee (hereinafter referred to as the "committee"), to be composed of (1) three Members of the Senate, to be appointed by the President of the Senate; (2) three Members of the House of Representatives, to be appointed by the Speaker of the House of Representatives; and (3) one representative from each of the following departments and agencies, to be designated by the respective heads thereof: Department of Justice, Department of the Treasury, Department of Labor, Department of Commerce, the Securities and Exchange Commission, and the Federal Trade Commission. Such representative may designate an alternate to sit and act for him on the committee in his absence. Any such alternate, while so acting, shall have the same rights, powers, and duties as are conferred and imposed upon a member of the committee by this joint resolution. Any member appointed under clauses (1) and (2) may, when unable to attend a meeting of the committee, authorize another such member to act and vote for him in his absence. A vacancy in the committee shall not affect the power of the remaining members to executive [*sic*] the functions of the committee and shall be filled in the same manner as the original selection.

SEC. 2.

It shall be the duty of the committee—

(a) To make a full and complete study and investigation with respect to the matters referred to in the President's message of April 29, 1938, on monopoly and the concentration of economic power in and financial control over production and distribution of goods and services and to hear and receive evidence thereon, with a view to determining, but without limitation, (1) the causes of such concentration and control and their effect upon competition; (2) the effect of the existing price system and the price policies of industry upon the general level of trade, upon employment, upon long-term profits, and upon consumption; and (3) the effect of existing tax, patent, and other Government policies upon competition, price levels, unemployment, profits, and consumption; and shall investigate the subject of governmental adjustment of the purchasing power of the dollar so as to attain 1926 commodity price levels; and

(b) To make recommendation to Congress with respect to legislation upon the foregoing subjects, including the improvement of antitrust policy and procedure and the establishment of national standards for corporations engaged in commerce among the States and with foreign nations.

[1] Pub. Res. No. 113, 75th Cong., chap. 456, 3rd sess.; S. J. Res. 300.

SEC. 3.

(a) The committee shall have power to appoint subcommittees to assist the committee in its work. The members of the committee shall serve without additional compensation but shall be reimbursed for travel, subsistence, and other necessary expenses incurred by them in the exercise of the functions vested in the committee.

(b) The Department of Justice, Department of the Treasury, Department of Labor, Department of Commerce, the Securities and Exchange Commission, and the Federal Trade Commission are directed to appear before the committee or its designee and present evidence by examination of witnesses or the introduction of documents and reports. The evidence presented by each of these agencies shall cover the subject matter of this inquiry which is within its administrative jurisdiction under existing law or which may be assigned to such agencies by the committee. Each such agency is authorized to request the committee to issue such subpoenas as such agency may require for the attendance of witnesses and the production of documents and reports.

(c) The committee shall have power to employ and fix the compensation of such officers, experts, and employees as it deems necessary for the performance of its duties. The committee is authorized to utilize the services, information, facilities, and personnel of the departments and agencies of the Government.

SEC. 4.

(a) Prior to the opening of the first session of the Seventy-sixth Congress or as soon thereafter as is practicable the committee shall transmit to the President and to the Congress preliminary reports of the studies and investigations carried on by it, and by the departments and agencies represented thereon, together with the findings and recommendations of the committee, and shall submit to the President and to the Congress as soon as practicable thereafter, during or prior to the termination of the Seventy-sixth Congress, further and final reports of the studies and investigations carried out pursuant to this resolution, together with the findings and recommendations of the committee.

(b) A majority of the committee shall constitute a quorum, and the powers conferred upon them by this joint resolution may be exercised by a majority vote.

(c) All authority conferred by this joint resolution shall terminate upon the expiration of the Seventy-sixth Congress.

SEC. 5.

For the purpose of this joint resolution the committee, or any subcommittee designated by it, shall be entitled to exercise the same powers and rights as are conferred upon the Securities and Exchange Commission by subsection (c) of section 18 of the Act of August 26, 1935 (49 Stat. 831); and the provisions of subsections (d) and (e) of such section shall

be applicable to all persons summoned by subpoena or otherwise to attend and testify or to produce books, papers, correspondence, memoranda, contracts, agreements, or other records and documents before the committee.

SEC. 6.

(a) There is hereby authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, the sum of $500,000, or so much thereof as may be necessary, to carry out the provisions of this joint resolution.

(b) Of the funds authorized to be appropriated under subsection (a), not to exceed $100,000 shall be immediately available for expenditure by the committee in carrying out its functions and not to exceed $400,000 shall be available, as the President shall direct, among the departments and agencies represented on the committee to enable them to carry out their functions under this joint resolution.

Approved, June 16, 1938.

20. *Taxation, recovery, and defense.* By H. Dewey Anderson. Pp. 374. 35c.

21. *Competition and monopoly in American industry.* By Dr. Clair Wilcox. Pp. 344. 40c.

22. *Technology in our economy.* By H. Dewey Anderson, Lewis L. Lorwin, John M. Blair, assisted by Ruth Aull. Pp. 313. 35c.

23. *Agriculture and the national economy.* By Albert L. Meyers. Pp. 48. 10c.

24. *Consumer standards.* By Samuel P. Kaidanovsky, assisted by Alice L. Edwards, under general supervision of Donald E. Montgomery. Pp. 433. $1.00.

25. *Recovery plans.* By Arthur Dahlberg, Hon. Robert G. Allen, Hon. Thomas R. Amlie, Hon. Jerry Voorhis, George B. Galloway, Irwin S. Joseph, Joseph M. Lurie, Sterne Morse, and Sam D. Schearer. Pp. 260. 30c.

26. *Economic power and political pressures.* By Donald C. Blaisdell and Jane Greverus. Pp. 222. 25c.

27. *The structure of industry.* By Willard L. Thorp, Walter F. Crowder, and associates. Pp. 759. $1.00.

28. *Study of legal reserve life insurance companies.* By Gerhard A. Gesell and Ernest J. Howe. Pp. 466. 50c.

28-A. *Statement on Life Insurance.* Submitted by five life insurance company officials. Pp. 84. 15c.

29. *The distribution of ownership in the 200 largest nonfinancial corporations.* By Raymond W. Goldsmith, Rexford C. Parmelee, Irwin Friend, James Gorham, and Helene Granby. Pp. 1541. About $2.00.

30. *Survey of shareholdings in 1,710 corporations with securities listed on a national securities exchange.* By Helene Granby, Raymond W. Goldsmith, and Rexford C. Parmelee. Pp. 258. 35c.

31. *Patents and free enterprise.* By Walton Hamilton. Pp. 175. 25c.

32. *Economic standards of government price control.* By Ben W. Lewis, Warren C. Waite, Don S. Anderson, R. K. Froker, Ellery B. Gordon, William Y. Webb, Donald H. Wallace, Aryness Joy, and Edward S. Mason. Pp. 514. 55c.

33. *Geographical differentials in prices of building materials.* By Walter G. Keim and associates. Pp. 459. 55c.

34. *Control of unfair competitive practices through trade practice conference procedure of the Federal Trade Commission.* By the Federal Trade Commission. Pp. 65. 10c.

35. *Large-scale organization in the food industries.* By A. C. Hoffman. Pp. 174. 20c.

36. *Reports of the Federal Trade Commission.* By the Federal Trade Commission. Pp. 275. 35c.

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THE BURDEN OF A DOMESTIC DEBT

By B. U. RATCHFORD

I

Since the beginning of modern public debts there have been serious differences of opinion as to whether they are a blessing, a curse, or a matter of indifference. During the past ten years the discussions of deficit financing have revived this issue but apparently have done little to settle it. Those who, following the Keynesian analysis, have favored deficit financing have concentrated their attention upon the income-generating potentialities of debt creation and have dismissed the question of the burden of the debt in later years with the general statement that an internally-held debt imposes no economic burden. On the other hand, those who have made special studies of the latter question have frequently arrived at a different conclusion.[1]

Since the federal debt will increase greatly during the present war, it is a matter of considerable importance to know whether that debt will be an economic burden in the post-war years. It might influence our attitude toward borrowing during the war; it would certainly affect our attitude toward deficit financing after the war.

In the discussion which follows it is assumed that the large post-war debt will be held internally, that a considerable proportion will be held by commercial banks, and that the debt will never be reduced substantially, but that interest will be paid regularly. It is also assumed that Congress will continue to frame tax laws as in the past, giving more heed to political than to economic considerations, but that the level of taxation will be much higher than in the past, with considerable reliance upon a progressive personal income tax and a heavy corporate income tax.

It should be emphasized that the point under consideration is the

[1] See, for example: Ursula K. Hicks, *The Finance of British Government, 1920-1936* (London, 1938), pp. 341, 348; Dan Throop Smith, "Economic Consequences of Deficit Financing: A Review," *Am. Econ. Rev.*, Suppl., Vol. XXXI (Feb. 1941), p. 95; David McC. Wright, *The Creation of Purchasing Power* (Cambridge, 1942), pp. 148-49.

burden, if any, of an internally-held public debt after it has been incurred, irrespective of the effects caused by its incurrence. Too frequently these two considerations have been confused, but as Hansen aptly states, "Once the debt has been incurred, its subsequent impact upon employment and the distribution of income will be the same regardless of the purpose for which it was incurred."[2]

II

There are two methods of analysis which may be used in attacking this problem; the "real" or barter analysis and the monetary analysis. These two methods may, in certain circumstances, lead to quite different conclusions. Much of the prevailing confusion undoubtedly arises from the unconscious switching from one method of analysis to the other.

The real or barter analysis is characteristic of classical and neoclassical theory; it has been, as Wright states, "almost the hall-mark of a trained economist."[3] Under this analysis goods exchange for goods, effective competition prevails, prices are flexible, and unemployment cannot be a serious problem. This procedure does not recognize money or monetary institutions as important elements in any problem; only the factors of production can enter into the analysis. This position is succinctly summarized in John Stuart Mill's famous statement,

> There cannot, in short, be intrinsically a more insignificant thing in the economy of society, than money; except in the character of a contrivance for sparing time and labour. It is a machine for doing quickly and commodiously, what would be done, though less quickly and commodiously, without it; and like many other kinds of machinery, it only exerts a distinct and independent influence of its own when it gets out of order.[4]

In practice the last qualification was almost invariably forgotten or disregarded.

In other words, classical theory assumed that monetary institutions merely provided a colorless or neutral medium through which the real factors of production operated. If that medium became defective and thus interfered with the free functioning of the factors of production, that did not call for any modification of theory, but merely for a removal of the defect.

According to the monetary analysis, economic activity is dominated by the possibility of money profits. No matter how abundant the factors

[2] Alvin H. Hansen, *Fiscal Policy and Business Cycles* (New York, 1941), pp. 152-53. See also B. F. Haley, "The Federal Budget: Economic Consequences of Deficit Financing," *Am. Econ. Rev.*, Suppl., Vol. XXXI (Feb., 1941), p. 7.

[3] Wright, op. cit., p. 4. See this reference for a further, and excellent, discussion of this point.

[4] *Principles of Political Economy* (Ashley ed., London, 1921), p. 488.

of production may be, they will not be used nor will exchange take place unless there is the prospect of monetary gain. Say's Law no longer reigns supreme. Expectations, the propensity to consume, and especially liquidity preference must all enter the analysis, though none of them is a factor of production. In short, this analysis recognizes that monetary institutions and arrangements may cause a shortage or a surplus of purchasing power which, in turn, may affect incomes and the level of economic activity.

Under conditions of relatively full employment these two methods of analysis may yield approximately the same results, but under other conditions the results may vary widely.

Deficit financing is usually justified by use of the monetary analysis, which indicates that in certain circumstances monetary conditions may constitute an obstacle to the free and full use of economic resources. The remedy indicated by such analysis is to remove the obstacle by certain financial measures—the creation of purchasing power by borrowing. When this diagnosis and its corresponding prescription have been accepted and acted upon, however, its exponents are likely to switch, unconsciously, to the barter analysis to prove that the results of those financial measures (debts) cannot constitute an obstacle or burden in the future. Of course, in a barter economy they would be right. But it is submitted that greater consistency in method would provide a more valid and a more convincing analysis. It is the purpose here, with only minor exceptions, to stick to the monetary analysis.

III

A public debt will not constitute a net economic burden unless its disadvantages outweigh its advantages. Are there any advantages in the mere existence of a public debt? Hansen mentions several possible advantages. First, the English debt in the nineteenth century encouraged the growth of certain financial institutions such as banks, the stock market, and life insurance companies. Also, by offering capitalists maximum safety for a part of their funds, it encouraged them to take risks with the remainder and thus promoted the growth of new industries. Second, that same debt, together with a regressive tax system, curtailed consumption, increased savings, and thus facilitated the growth of capital and, ultimately, a rise in the standard of living. Third, because of a reversal of the above conditions, the English debt after World War I may have stimulated consumption.[5] Hansen only "suggests" this last point and does not attempt to prove it. It is not convincing to the present writer.[6]

[5] Hansen, *op. cit.*, pp. 154-57.

[6] See Hicks, *op. cit.*, pp. 356-57.

In addition to those mentioned by Hansen, other advantages have been suggested. Some have claimed that the existence of safe public securities stimulates thrift and savings by those of low incomes and leads to financial security and self-respect. Again, the public debt is a convenient legal investment for trust and other fiduciary funds. Finally, the public debt is the most feasible vehicle for central bank open-market operations.

Concerning all of these except Hansen's last point, which is of doubtful validity, it may be said either that they are no longer of economic significance or that the conditions may be met with only a moderate debt. The big problem of the future will not be the stimulation of savings but rather the finding of suitable uses for those savings. We have the machinery, the techniques, and the institutions for assembling savings and issuing high-grade private securities; our greatest lack, in times of peace, is adequate demand for investment funds. Also, there can be no doubt that the present volume of public bonds is sufficient to provide the convenience mentioned in the last two points. The conclusion which logically follows is that there would be no economic advantage in the existence of any additional public debt.

IV

Perhaps the most popular explanation for the widely-accepted doctrine that an internally-held public debt imposes no economic burden is the "one big family" analogy; one segment of our population owes another segment, and for the group as a whole the assets and liabilities cancel out. A few years ago Professor King used a similar analogy in attempting to explain the unemployment problem, dreaming up a situation which might have arisen on George Washington's plantation. He concluded that "the illustration does not depart widely from the situation as it exists today. The United States is little more than an enlargement of Washington's plantation."[7] In reply Professor Colm pointed out that "he neglects the difference which exists between an economic order based on private enterprise and an economy in which a leader tells his slaves what work they must do."[8] Those who use the family analogy do not specify whether the different members of the family maintain separate accounting systems and separate bank accounts. If they do, and if they deal with each other at arm's length, heavy debts owing from some members to others could play havoc with the family economy. If they do not, then the family is a communal unit and any

[7] Wilford I. King, "Are We Suffering from Economic Maturity?" *Jour. of Pol. Econ.*, Vol. XLVII (Oct., 1939), pp. 611-13.

[8] Gerhard Colm, "Comments on W. I. King: 'Are We Suffering from Economic Maturity?'" *Ibid.*, Vol. XLVIII (Feb., 1940), p. 115.

analogy between it and our national economy is invalid, as Colm has indicated.

Another and more technical explanation is that a public debt is no economic burden because debt charges are "transfer" rather than "exhaustive" payments; that is, they do not tie up man power or economic resources. With certain exceptions to be noted below, this is correct as a "real" analysis. But when the economic system is operating far below capacity, as it has chronically done in recent years, available man power and economic resources do not constitute the effective limit on production. Rather, the limit is the will or desire to use those factors. In other words, the possibility of profits is the critical factor and the monetary analysis is called for. Most of the analysis which follows is an attempt to determine whether the "transfer" payments necessary to service a debt may constitute an economic burden.

V

The strongest case for the proposition that a domestic debt is not an economic burden would be one in which the bonds are held by taxpayers in the same proportion as they pay taxes. It is usually argued that in such a case taxpayers are merely transferring money from one pocket to another and that the transfer can have no economic significance. Actually we have little data on the bond holdings of individuals and business units. Even if we had such data it is doubtful whether we could distribute the tax burden in the same pattern and even more doubtful whether we should do so. For example, millions of people are unable or unwilling, for various reasons, to buy bonds during this war. Can we, twenty years from now, so shape our tax system as to exempt them from that part of the tax burden represented by debt service? Should we do it if we could? Finally, even if we solve this problem at a given time it would not remain solved, for the ownership of bonds and the factors which determine tax liability are constantly changing.[9]

But even if the tax load could be distributed according to the ownership of bonds a public debt might, for several reasons, constitute a net economic burden. The first is the subjective reason. As Miss Ruggles has well stated:

> It is very doubtful whether or not individuals would realize that part of their taxes was being returned to them in the form of interest on their bonds. Even if they realized that this was true, it is doubtful whether or not they would find their taxes less burdensome for that reason, since most individuals, who give any consideration at all to the matter when they buy government bonds,

[9] See A. C. Pigou, *The Political Economy of War* (new and rev. ed.; New York, 1941), p. 77.

expect that the interest they will receive from their bonds will exceed the taxes they must pay for debt service.[10]

In brief, the bondholder takes his interest income for granted. He reasons, quite correctly, that he might have put his funds into other securities and therefore he should not be penalized for having bought government bonds. Even though the taxes he pays come back to him in interest he will try just as hard to escape them, he will regard them with as much distaste, and they will influence his economic decisions and actions just as much as though they went to pay interest to some one else.

More tangible—and more "real"—than the subjective factors are the various frictions involved in levying and collecting the taxes necessary to service a debt. Some writers seem to imply that when additional revenues are needed Congress merely changes a few figures in the tax laws, taxpayers make corresponding changes in their computations, and that ends the matter. They would have us believe that the taxpayer is the meekest of lambs whose only joy is to be shorn. Actually, the levy and collection of new taxes is a long, bitter, and costly fight from beginning to end. The mere mechanics of passing the laws, interpreting them, settling disputes, collecting the revenues, and paying out funds require the services of thousands of men.[11] Let us note some recent developments.

During the past ten years federal taxes have been increased sharply. A new revenue act has been passed every year—two were enacted in 1940—in contrast with the usual biennial act in the twenties. Several of the acts were marked by particularly bitter fights. From 1936 to 1938, the undistributed profits tax not only caused Congress much trouble but also was a very disturbing element in the business and financial worlds. In 1940, the start of our defense program was delayed for weeks while business men held out for tax concessions. The Revenue act of 1941 was under consideration from April to September while congressional committees held hearings and drafted compromises. Hundreds of men spent thousands of days and more thousands of dollars preparing briefs and pleading their cases. Even the President was constrained to intervene before the fight was over. Certainly the costs of such legislation must be measured in the millions of dollars.

[10] Catherine G. Ruggles, "Social and Economic Implications of the National Debt," *Annals Am. Acad. Pol. and Soc. Sci.*, Vol. 214 (Mar., 1941), pp. 200-01. *Cf.*, "no one would buy bonds if his entire income from them were going to be taxed away." Wright, *op. cit.*, p. 143. *Cf.* also: Haley, *op. cit.*, p. 79; and Dan T. Smith, *op. cit.*, pp. 95-96.

[11] "Moreover, the necessity of passing an increasing proportion of the national income through the public treasury is attended by growing difficulties and costs of levy, collection, and transfer." Lawrence H. Seltzer, "Direct Versus Fiscal and Institutional Factors," *Am. Econ. Rev.*, Suppl., Vol. XXXI (Feb., 1941), p. 105.

Tax litigation has increased greatly in recent years. The Supreme Court of the United States decides from fifty to sixty tax cases per session—more than in any other field. All large business units must have their expensive tax specialists and subscribe to elaborate tax services.[12] More accountants and lawyers are specializing in tax work.

These developments are not surprising and are perhaps unavoidable. Additional revenues mean new taxes and higher rates on old taxes, which require larger tax payments by business units and individuals with large incomes. The larger payments make it worth while for those affected to contest the constitutionality of new taxes and to try to find loopholes in old laws, all of which means more litigation. Also, in the search for new sources of revenue, Congress must resort to new and untried taxes, the constitutionality of which may be questionable. Nor can we hope for relief after we have permanently attained a higher level of taxation. The economic situation is constantly changing, requiring changes in taxes. But even if it were stable, pressure groups would be constantly at work to shift tax burdens.[13] So long as rates are high, the premium for escaping taxes will be great, and the ingenuity of man will always be at work.[14]

The total costs of these mechanical frictions, aside from their disturbing influence upon the conduct of business, amounts to many millions of dollars per year. They represent a dead loss, a drag on economic production, even if the tax load is distributed in proportion to debt holdings. The uncertainties and disturbances which they arouse each year probably constitute a greater burden. So, even under the most favorable assumption of conditions which in practice are unattainable, a public debt is a burden.

VI

The most important factor determining the burden of a public debt is the effect the debt will have upon the creation of income in the future.

[12] "In recent years several factors have combined to increase greatly the business man's cost of compliance with tax laws; perhaps the most important of these factors are, first, the rapid development of various new and complicated forms of federal and state taxation applying to business. . . ." Robert Murray Haig, "The Cost to Business Concerns of Compliance with Tax Laws." *Manag. Rev.*, Vol. XXIV (1935), p. 324. He found that with the federal income tax the typical corporation had a compliance cost equal to 4.7 per cent of the tax. *Ibid.*, p. 327. New York City stores found that the cost of complying with the sales tax was equal to from five to ten per cent of the tax. Carl Shoup, "The Experience of Retailers under New York City's Sales Tax," *Bull. Nat. Tax Assoc.*, Vol. XXX (1936), p. 110.

[13] See "Economic Power and Political Pressures," T.N.E.C. monog. no. 26, pp. 34-35, 117-21.

[14] *Cf.* Hicks, *op. cit.*, p. 261: "Chancellors have been fighting a losing battle against the ingenuity of taxpayers who believe themselves to be hardly treated—and the ingenuity of their legal advisers."

In the past the existence of a public debt may have facilitated capital formation and the increase of real income. Taxes were regressive and the debt was held by the wealthy. This promoted savings, which were the limiting factor in the expansion of capital. Today conditions are different; investment, not savings, is the factor which limits the expansion of capital and income. It is therefore pertinent to consider how investment will be affected by the heavier taxes which will be necessary to service a large debt.[15]

It should require no extended analysis to demonstrate that heavy taxes are a deterrent to investment. We now rely, and presumably will continue to rely, heavily upon income and profits taxes. If business men are rational they will, when estimating the profitability of new investment, deduct from a third to a half of the anticipated net profits as taxes. That can mean only one thing: a drastic reduction in the range of profitable new enterprises. According to Hansen:

Even an ideal tax structure will restrain more or less the inducement to invest, and a regressive tax structure will unduly restrict consumption. Diversion of a large part of the income stream into interest payments on government bonds would tend to raise the propensity to save, thus intensifying the savings-investment problem.[16]

Angell goes into the problem more fully and lists heavy taxation as the most important factor which has reduced the demand for investment funds in recent years. He contends that both progressive income taxes and capital-gains taxes "hit especially hard those investors in the higher brackets who would otherwise take the risks of getting new enterprises started. . . ."[17] He concludes that

There is hence no major line of escape from the conclusion . . . that in all important cases, actual or even expected increases in those taxes of which the burden varies even roughly with individual or business income from assets must necessarily reduce the volume of subsequent new private investment below what it would otherwise have been.[18]

[15] There would, of course, be taxes even if there were no debt. In this respect, then, the taxes for debt service may be considered as marginal taxes. If we come out of the war with a debt requiring interest payments of 5 or 6 billion dollars—an amount equal to the total of federal revenues for any year before 1940—the taxes to raise that sum may mean the difference between total taxes of 30 per cent and 35 per cent of the national income; or between 35 per cent and 40 per cent.

[16] Hansen, *op. cit.*, p. 175. *Cf.*: "But with every increase in tax rates there is the danger that the marginal efficiency of capital and the propensity to consume will be adversely affected, and that consequently the increase in the national income may be checked." Haley, *op. cit.*, p. 84. See also, Hicks, *op. cit.*, pp. 249-50.

[17] James W. Angell, *Investment and Business Cycles* (New York, 1941), p. 273 footnote. See also: Dan T. Smith, *Am. Econ. Rev.*, Suppl., Vol. XXXI (Feb., 1941), pp. 95-96, and Imre de Vegh, "Savings, Investment, and Consumption," *ibid.*, pp. 244-45.

[18] Angell, *op. cit.*, p. 278.

Slichter is equally emphatic in his belief that taxes have been a major factor in restricting investment. He states that

> a deficit may cause the investment function to shift to the left, especially if it arouses the expectation of higher taxes and if the government has manifested a strong propensity to tax profits.

He then proceeds to show that the above possibility has been realized in this country.[19]

In addition to the quantitative effect upon expected profits, a large debt may deter investment in another way. Keynes and others who use his approach have emphasized the strategic part played by "expectations" or "anticipations" in determining the rate of new investment. Keynes pictures quite vividly the great uncertainty out of which these expectations arise and finally concludes that we usually rely upon a convention, *i.e.*, the assumption "that the existing state of affairs will continue indefinitely except in so far as we have specific reasons to expect a change."[20] Into this state of great uncertainty a large debt injects a powerful factor on the pessimistic side—the certainty of heavy taxes. Further, if the debt is increasing or if national income is decreasing the business man has a strong reason for believing that "the existing state of affairs" will not continue indefinitely but will get worse. In fact, there may be a "multiplier" at work to increase pessimism here. If revenues for debt service must be quadrupled, a given investor may fear that his share of the taxes may be increased to an even greater extent because of discriminatory taxes or because the tax structure may be made more progressive. So long as expectations retain their present importance and so long as we use progressive taxes a large debt will be a deterrent to private investment.

Thus we have the answer to the problem of why a domestic debt, although it merely takes money from one group and gives it to another, nevertheless constitutes a net burden. It is a burden because it discourages the creation of income. A progressive tax structure which bears heavily upon capital gains and income from property—and most large incomes are from property—takes funds away from strategic or income-generating points in the income stream and restores them to the stream at less strategic points.[21] The result is a reduction in the demand for investment funds and consequently in the expansion of

[19] Sumner H. Slichter, "The Conditions of Expansion," *Am. Econ. Rev.*, Vol. XXXII (Mar., 1942), pp. 5-7.

[20] J. M. Keynes, *The General Theory* (London, 1936), pp. 149-52.

[21] Kuznets refers to it as "a transfer of income from areas in which its power to stimulate production is great to others in which such power is less." Simon Kuznets, "National Income and Taxable Capacity," *Am. Econ. Rev.*, Suppl., Vol. XXXII (March, 1942), p. 59. See also Angell, *op. cit.*, p. 9 and de Vegh, *Am. Econ. Rev.*, Suppl., Vol. XXXI (Feb., 1941), p. 245.

capital and income. Further, this analysis provides an answer to the argument, frequently advanced, that a national debt cannot be a seriously disturbing factor so long as interest payments amount to only a small part of national income. The spark plugs represent only an infinitesimal part of an automobile's weight, but the car cannot function without them. Interest payments may represent only a small part of national income but they may be equal to a very large part of business profits; a part large enough, if taxed away from the owners of business, to stop all new investment.[22]

There is a wider and more general principle involved here. Our economic system is still basically one of private property and free enterprise; a system in which we depend upon the profit motive, especially as it works out through private investment, to provide the driving power for economic activity. We still assume that the income received by the various factors of production measures roughly the value of the contributions made by those factors to economic production. There is no other rational basis for our present system. But as larger and larger parts of our national income are run through the tax mechanism and distributed to holders of the public debt, the connection between contribution to economic production and the ultimate income enjoyed is weakened.[23] For example, if interest payments were equal to 25 per cent of the national income, producers would have to surrender 25 per cent of their economic rewards while bondholders would be able to claim that 25 per cent without making any contribution to production. Clearly that is not a good way to encourage economic production or to promote social harmony.[24]

It may be objected that the same argument would apply to interest on private debts. There are, however, two important differences. First,

[22] In a recent article Hansen faced this question and concluded, "Here is a question that has *got* to be solved" (italics supplied). Alvin H. Hansen and Guy Greer, "The Federal Debt and the Future," *Harper's* (April 1942), p. 498. He did not say nor indicate that it *can* be solved, yet he favors an indefinite increase in the federal debt. Here the words of J. M. Clark would seem to be appropriate; he said we should not commit "ourselves to a policy which would be disastrous if the measures should disappoint optimistic expectations. We must act daringly, but we can probably be daring without gambling our national safety on a single throw of dice. An experimental policy implies keeping open the possibility of withdrawal." *The Structure of the American Economy* (Washington, 1940), Vol. II, p. 26.

[23] There is no escape from this conclusion unless we assume that all necessary revenues could be collected from "surplus" incomes without in any way affecting economic activity. When the needed revenue is large this is obviously a false assumption.

[24] This is especially true of a war debt. It is very difficult for anyone to explain logically why ex-soldiers and those who were hard hit by inflation during a war should, in later years, help to pay interest to those who bought bonds during a war, perhaps out of exorbitant war profits.

the parties who pay interest on private debts have received a special benefit and in most cases their earning power has been increased by the loan. With public debts it is difficult, if not impossible, to establish such a connection. Second, the creditor of a private debtor must assume, in some degree, direction and control over his funds and decide where and how they shall be used; to this limited extent he must function as an entrepreneur. This is not true with public debts.

Perhaps Adam Smith had in mind some considerations like the above when he wrote

> a creditor of the public, considered merely as such, has no interest in the good condition of any particular portion of land, or in the good management of any particular portion of capital stock. As a creditor of the public he has no knowledge of any such particular portion. He has no inspection of it. He can have no care about it. Its ruin may in some cases be unknown to him, and cannot directly affect him.[25]

The above section raises the question whether there is any real difference between private and public investment. Many have argued that when the funds are used for productive purposes in both cases there is no essential difference.[26] Both private and public investment put to use funds which have been saved (or create new funds) and thus stimulate business activity for the time being. Also, both may create utilities. But there are two important differences. First, government enterprises do not have to pass "the test of the market." Government credit is such that the promoter of a project does not have to convince those who are to provide the funds that the project will be profitable.[27] Thus an important check against the wasteful use of economic resources is avoided. It is true that this check has often worked unsatisfactorily but it may still be better than no check. As Wright aptly notes, "To assume *prima facie* that government projects which are free are not worth their cost is doubtless erroneous, but it is equally erroneous to assume that they are."[28] Further, government investment is, by tradition, restricted to low-yield fields, for the fields which promise high yields have already been exploited by private investment. Also, management is likely, in general, to be more efficient in the private field because the private business man, in order to get

[25] *The Wealth of Nations* (Everyman's ed.), Vol. II, p. 410.

[26] See, for example, Richard V. Gilbert and others, *An Economic Program for American Democracy* (New York, 1938), pp. 63-67.

[27] On the contrary, he may have to prove that it would *not* be profitable or self-liquidating in the near future, lest it permits too rapid disinvestment or competition with private business. *Cf.:* Paul A. Samuelson, "The Theory of Pump-Priming Reëxamined," *Am. Econ. Rev.*, Vol. XXX (Sept., 1940), pp. 497-98.

[28] Wright, *op. cit.*, p. 145.

to the top, is subject to a more severe and rigid selection than is the politician.[29]

Second, the services rendered by public investments are paid for, not by those who use them and in proportion to that use, but by taxpayers. In other words, private activity must not only bear the costs of the utilities it creates but also pay for the utilities created by public investment.[30] We have seen that heavy taxation discourages investment and that investment funds have a strategic value. In the future the government may, in order to keep incomes up and to put savings to work, be forced to make additional investments, requiring still heavier taxes. In this way a vicious spiral may be set up, the government taking over a larger and larger portion of the economic sphere to find outlets for its investments and imposing heavier and heavier taxes upon the dwindling sphere of private economy.[31] Some contend that the increased income generated by public investment will make higher tax rates unnecessary. It has not proved so since 1933. In fact, the opposite may happen, for "The public debt may eventually become so large that a further increase in tax rates may decrease tax revenues by decreasing the national income."[32] Furthermore, the fear of higher taxes, whether justified or not, may deter private investment as much as the reality.[33]

VII

A large domestic debt may be burdensome for other reasons. The creation of a large debt means the creation of a large *rentier* class of individuals and institutions. These normally have considerable political influence which, in the post-war period, will be exerted in favor of deflation and drastic retrenchment. At the same time taxpayers will be demanding a "return to normalcy" and sweeping tax reduc-

[29] *Cf.* Kuznets, *Am. Econ. Rev.*, Suppl., Vol. XXXII (Mar., 1942), pp. 40-41.

[30] *Cf.* Slichter, *Am. Econ. Rev.*, Vol. XXXII (Mar., 1942), p. 19.

[31] One writer asks: "Is it not conceivable that a market economy, if it relies solely on the possibility of expanding planned production whenever production for market contracts, may be obliged to transform itself into its opposite in order to stave off unemployment?" John H. G. Pierson, *Full Employment* (New Haven, 1941), p. 114. Kuznets asks, "If we are to retain the system of free enterprise and individual initiative . . . how far is it possible to yield to the pressure of secular factors making for expansion of governmental activity and at the same time assure an adequate rise of the national product?" *Am. Econ. Rev.*, Suppl., Vol. XXXII (Mar., 1942), p. 61.

[32] Haley, *Am. Econ. Rev.*, Suppl., Vol. XXXI (Feb., 1941), p. 84. *Cf.*: "Business psychology being what it is at present, the accumulation of deficits seems to have reached a point at which it now deters as much private investment as Government can make, or more. This would be still more strongly true of further deficits on a basis of policy pointing to indefinite future increases, and not limited to a temporary emergency." Clark, *op. cit.*, p. 25.

[33] See Clark, *op. cit.*, p. 20.

tions. That demand will have to be met in considerable part, for a free people will not, in time of peace, submit to the same rigorous scale of taxation which they will willingly bear in time of war.[34] The outcome of these two forces may well be a drastic reduction in the government's social expenditures during the critical reconstruction period and perhaps a failure to provide sufficient funds for national defense.

Opposing the *rentier* class—perhaps stimulated and augmented by *rentier* policies—will be certain inflationary groups such as farmers, manufacturers, debtors, and others. They may, in fact, have the first inning in the immediate post-war period, as in France after 1918. Political control may pass from one of these classes to the other, producing confusion and uncertainty in the economic world, or it may degenerate into a deadlock with the government trying to give each class a larger share of a steadily dwindling national income. The latter is essentially what happened in France after 1933; as one writer has expressed it, "they were simultaneously pursuing the policy of deflation and inflation too!"[35] There can be no doubt that the huge French debt was a major cause of the political confusion and the industrial lethargy which hung like a pall over France for the five or six years before 1939. In England it was found during the same period that "the hazards of a large accumulation of deadweight debt are even greater than had commonly been supposed" and that "The deflationary effect of the debt could not be side-stepped, yet it turned out to have inflationary effects just where they were not wanted."[36] In both countries the large debts were major causes of the financial, industrial, and military unpreparedness which prevailed when war came in 1939.

In brief, the point is this: In "a system of individual initiative and private enterprise . . . there must be some limit to the share of current income payments that can be withdrawn in the form of taxes."[37] If interest on the public debt consumes a larger part of that maximum, smaller amounts are left for social expenditures and for national defense. The pinch is most likely to be felt in times of depression, when a reduction of social expenditures may cause political conflicts and

[34] As Miss Ruggles well states, "Identical taxes involve a greater subjective burden after an emergency than during an emergency. During an emergency everyone may make sacrifices readily. But one cannot arouse enthusiasm to a very high pitch for paying taxes on account of a debt incurred during a past emergency." *Annals Am. Acad. Pol. and Soc. Sci.*, Vol. 214, p. 200.

[35] Hon. George Peel, *The Economic Policy of France* (London, 1937), p. 210.

[36] Hicks, *op. cit.*, pp. 358-59.

[37] Kuznets, *Am. Econ. Rev.*, Suppl., Vol. XXXII (Mar., 1942), p. 54. In time of peace the limit is substantially lower than in time of war. See also Ruggles, *Annals Am. Acad. Pol. and Soc. Sci.*, Vol. 214, pp. 204-05.

social unrest. Periods of depression are also periods in which wars are generated, thus the neglect of national defense may be disastrous.

Along a related line, Hansen raises the question "whether a public debt imposes any such serious rigidity upon the economy as is the case with private debt."[38] He does not think so because he does not think that the government is so likely to become insolvent. But a debt may impose rigidities and seriously curtail freedom of action without causing insolvency. In one respect, at least, public debt is like private debt; it curtails the debtor's freedom of action by prescribing in advance how a part of his income shall be allocated. The greater the debt, the greater the curtailment. In an emergency or under changed conditions, the debtor is unable to use all of his income as prevailing conditions may dictate; he must allocate a part of it in a way determined by previous commitments. In the final analysis this is probably the most important economic disadvantage of the whole institution of debt and would seem to be more significant than the purely legal fact of bankruptcy.[39]

VIII

In one other important respect an internal debt may be a burden, at least under conditions such as those now prevailing in the United States. It may complicate and interfere with the proper control of the monetary and banking system. At the end of this war the United States will owe the largest debt ever known in history. The average rate of interest paid on the bonds will be very low. It is at least possible that the prevailing rate of interest may rise in the next ten years. If it does rise, the price of government bonds, in the absence of strong support, will drop in proportion. Since 1937 the Federal Reserve System has followed the policy of supporting the government bond market in periods of emergency. On December 8, 1941, the Board of Governors issued a statement which read in part,

> The System is prepared to use its powers to assure that an ample supply of funds is available at all times for financing the war effort and to exert its influence toward maintaining conditions in the United States Government security market that are satisfactory from the standpoint of the government's requirements.
>
> Continuing the policy which was announced following the outbreak of war

[38] Hansen, *op. cit.*, p. 159.

[39] Hansen contends that "An internal loan resembles ordinary borrowing [evidently he means private borrowing] only in a purely formal way, and it is obvious that *every* analogy to private borrowing must be *completely* false" (italics supplied). *Ibid.*, p. 142. The above analysis indicates one way in which they are alike. In public borrowing there is more leeway before the limit is felt but when it is reached the consequences are all the more serious.

in Europe, Federal Reserve Banks stand ready to advance funds on United States Government securities at par to all banks.[40]

The System is practically forced to support the market since the commercial banks of the country are holding such a large amount of government bonds—over 22 billion dollars' worth—that any substantial price decline would threaten the solvency of the whole banking system. When the Reserve Banks buy bonds to support the market, however, they are not only coining the bonds into current purchasing power but they are also creating bank reserves which may be used as the basis for credit expansion.

Many of the sales of war savings bonds now being made are accomplished under the pressure of patriotic appeal. When the war is over and patriotic fervor subsides, it is probable that many small holders will redeem their bonds in order to purchase durable consumer goods. Business units may sell bonds in order to rehabilitate and to expand their plants in order to produce those goods. Other bondholders will sell if more attractive yields are available elsewhere. The rush to purchase goods may well touch off a boom such as followed the First World War. If, in order to support the market, the Reserve Banks are forced to buy several billion dollars of bonds they will only be adding fuel to the flames. Even if the bank reserves thus created could be sterilized or immobilized, there would still be the billions of dollars of purchasing power which would be created.

The basic fact is that it is now necessary for some agency to manipulate the price of government bonds. The only agency with sufficient resources to do that job is the central bank. But that task is, under certain conditions, inconsistent with the bank's major duty of controlling credit. It is quite evident that a situation may arise wherein it would be impossible for the Reserve Banks, with their present powers, to accomplish both of these objectives. Nor is it easy to prescribe the powers that would have to be given to the banks to enable them to deal successfully with the two problems. The only answer may be the retention by the government of its control over prices and production and an extension of direct governmental control over banking policies. In any case, the public debt will be a factor to be reckoned with; a factor which will solve no problems but which will complicate and intensify many.[41]

IX

We may briefly summarize our analysis. An internally-held public debt is an economic burden even when taxes are paid to service the

[40] *Federal Reserve Bulletin*, January, 1942, p. 2.

[41] For a penetrating and comprehensive discussion of how the debt has complicated the problem of monetary control in England, see Hicks, *op. cit.*, Part III.

debt in the same ratio as the bonds are held. This is true because of the friction of levying and collecting the taxes and because of the difference in the subjective effects of paying taxes and receiving interest. Most important, however, is the fact that such a debt is a burden because, when joined with a progressive tax system, it substantially restricts investment and thus lowers national income. Other elements of burden are the facts that a debt limits a government's freedom of action, tends to restrict social expenditures, and may preclude effective control of the monetary and banking system.

The whole analysis to this point indicates that one of the major difficulties is the progressive tax system which we are using and which we assumed at the beginning. Here we should recognize that a steeply progressive tax system and a free flow of investment funds may be incompatible. As Slichter expresses it, "There may be a clash . . . between the interest of the community in full employment and its preference concerning the distribution of wealth."[42]

It has been suggested that almost the whole burden of a domestic debt may be eliminated by a "proper" tax policy. For example, Wright states that the burden is "primarily a matter of tax friction. Careful tax policy could reduce it almost to the vanishing point."[43] Similar suggestions have been made elsewhere. But in what direction should we make the change? Toward a more progressive system, or toward a regressive system? Or in some other direction? None of those making the suggestion has indicated, even in a general way, how any feasible tax plan might be developed, so we are by no means sure that it *can* be done. Present conditions would seem to indicate that it *cannot* be done within the framework of our present economic system and we must work on that assumption until there is reasonable proof to the contrary. Even if an acceptable and promising plan could be devised by the theorist, there would probably be less than an even chance that it could be enacted and administered so as to attain the desired result. Finally, it should be noted that, when the debt is large and the tax load heavy, Congress cannot exercise fine discrimination in choosing the taxes it will impose; it will levy any and all taxes that promise to bring in sufficient revenue. "When the wisest government has exhausted all the proper subjects of taxation, it must, in cases of urgent necessity, have recourse to improper ones."[44]

In brief, it is highly doubtful whether the debt burden can be dissolved by manipulating the tax structure. While the doubt remains it is dangerous to keep on piling up the debt and thus increasing the

[42] Slichter, *Am. Econ. Rev.*, Vol. XXXII (Mar., 1942), p. 17.

[43] Wright, *op. cit.*, p. 148.

[44] Adam Smith, *op. cit.*, Vol. II, p. 411.

burden for, as Clark says, we should keep open the possibility of withdrawal.

Public debt is, as Hansen suggests, an instrument of public policy, but it is one which should be used with care. It is not magic; it entails a cost which has to be paid in the future. How great that cost may be will depend partly on how well we manage our finances and partly on future conditions. When we choose to remove a monetary obstacle to present production or to finance a war by creating a debt, we are able to do so because we have freedom of action. But by that act we give hostages to the future; we restrict our freedom of action to deal with new problems which may arise and at the same time create an obstacle which, according to the best of our knowledge at present, will be a chronic economic problem.

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CAPITAL MONEY AND REVENUE FUNDS

By Donald S. Tucker

Uninvested savings, we shall find, have at each moment a balance-sheet magnitude as precise as that of a bank deposit. This magnitude changes from hour to hour and from year to year. Alterations of this magnitude have highly significant consequences. One of the most dangerous economic fallacies is, then, the idea that saving equals investment. Real saving is but another aspect of real investment; but it is financial saving, not real saving, that diminishes the demand for goods and expands the demand for securities.

Some precision will be needed in this analysis. The following definitions are therefore submitted not because they are especially novel, but because the rigidity of concepts characteristic of investment analysis will facilitate revelation of the elements omitted by Mr. Keynes and by many other writers. References to their writings must, however, be restricted severely. Even the briefest examination of each of the many differences among concepts would expand the discussion of definitions to such length as to preclude a survey of the results that can be secured through the use of more accurate concepts.

In order to examine the phenomena significant for this purpose, all assets or property must first be divided into three classes: *money, products,* and *rights. Money* will exclude interbank and United States government deposits but will include all other demand deposits and currency in circulation except cash in the vaults of active banks. The significant distinction is, therefore, that between the next two items.

A *product* is any good such that its sale creates either income or ordinary revenue for some producer. Because of this resort to an accounting concept, products may be distinguished from other goods. These products include business inventories as well as the services rendered by men and by property. The purchase of a product by either business man or consumer advances the process of current production through one step.

Rights, as the term will be used here, consist of all assets not included within the definitions of money or of products. A house, when in the possession of some home owner, would therefore be a right; even though a few months earlier, if then in the possession of some speculative builder, that house would have been a product. To a home owner the selling price of his house would not be ordinary revenue.

Rights are of two kinds. (1) Some promissory notes give claims to goods not yet in existence. Borrowing in such instances may facilitate future production, but the sale of such notes does not necessarily enlarge the current output. (2) Other rights are claims on goods already produced. Though differences between these two kinds of rights are not significant in this study, it is important that both be included within the class called rights. For this and other reasons, the sum of the values of all rights may exceed the national wealth. Rights include the fixed assets of business and all goods owned by consumers as well as all securities and other evidences of investment, including all time deposits and savings deposits in banks.

Revenue funds consist of money which, while in the possession of its present owner, is available for purchasing products. Legally any dollar of money is normally available for any purpose that the owner desires; but folkways also are important in this connection. The concepts of capital and income affect the minds of property owners. Consumers frequently regard as revenue funds no more than the unspent portion of the last pay check or wage envelope. Business men, however, will properly regard as revenue funds all the money that they hold, except such portions as may have been accumulated specifically for sinking funds, the payment of bank debt or the purchase of securities. Money held to pay dividends, interest, rent or wages, as well as the money held to purchase materials and supplies, would of course be revenue funds. Such funds may be represented by the symbol R.

Capital money consists of money not now available for the purchase of products. Capital money is frequently available for purchasing rights, but immediate availability for the latter purpose forms no part of this definition. Because money held for one purpose cannot, however, be simultaneously available for other purposes, it follows that money held in order to purchase rights is necessarily capital money. Because dollars are identical in value, restrictions on the use of money apply to totals rather than to specific units.

Restrictions on the use of capital money arise in some instances from statutes. Banks, insurance companies, and financial institutions generally are restricted by law in the use of their money. A bank, for example, may buy the notes of a grocer; but it may not use its money to start a new grocery store. In other instances these restrictions arise from contracts or deeds of trust. The typical investment trust is free to buy the bonds of a steel mill; but it is not free to use trust money to build blast furnaces or to buy iron ore. Commonly, however, restrictions on the use of money arise from some owner's recognition of the difference between capital and income.

A man whose income is $500 a month may well own a deposit bal-

ance of $2,500. He may regard $400 of this amount as revenue funds available for current expenses. He may hold $1,100 available for investment as soon as the proper opportunity appears. He may regard the remaining $1,000 as a nest egg to be held permanently. If unexpected events compel him to deplete this nest egg, he will sell securities or strive in some other way to rebuild this balance to its predetermined magnitude. This $1,000 is itself his investment. In such a deposit, $2,100 would be capital money; but only $1,100 is now available for investment.

Capital money is obviously of two varieties. Much capital money is available for future investment. Available capital money may be represented by the symbol C_a. In many instances, however, capital money is held for other purposes. Some executor, if liquidating an estate for distribution, would probably not invest his funds even if offered an extremely attractive opportunity. Some investment banker may leave a large share of his total wealth permanently on deposit in order to facilitate occasional borrowing. Though the deposit balances of business should normally be regarded as revenue funds, the cash balances owned by financial institutions are normally capital money. Insurance companies, for example, invest most of their funds; but many of them seem also to have set certain minimum standards for their balances even though they do not borrow. People do the same. The individual in our example of the preceding paragraph held $1,000 idle as a matter of policy. Capital money not available for future investment may be designated by the symbol C_n to distinguish it from C_a, the capital money now available for investment purposes. C_n (capital not available) plus C_a (available capital money) equals C or total capital funds. The magnitude of C_n is apparently more stable than that of C_a. At a later point it will be necessary to recur to these two varieties of capital money; but at this point it is necessary only to note that both are included within the concept of capital funds. Relations between revenue funds and total capital money must first be examined. Four processes exist that may convert one of these into the other.

Financial saving consists of converting into capital funds money that has been received as income. This *saving of money* differs from the real saving. Real saving must be measured in goods. Real saving is an excess of production over consumption; but rising prices and incomes for some class may permit that class both to expand its consumption and to save money without expanding its physical output. Saving money implies that the source of funds is income recently received. Even though received recently, the source of such income is always past production. The essence of financial saving is therefore

restraint on current consumption and on the current demand for goods. Mr. Keynes is of course correct in pointing out that the saving of money, if no use is made of the money saved, diminishes production as well as consumption. Because producers are then less able to consume, it diminishes also future consumption and future production.

Financial saving is, however, not the only process that diminishes revenue funds. Real liquidation is on some occasions more important. *Liquidation* is the sale of an asset without replacing the asset. *Real liquidation* consists of (1) the sale of products to purchasers who pay for them with revenue funds, and (2) conversion of this revenue money into capital funds by the seller of such goods. If some department store replaces in its inventory only some fraction of the goods it sells, and uses $100,000 of its revenues to diminish its debt to some bank, then it has rendered this $100,000 unavailable for purchasing products. Bankers may or may not relend promptly the money they receive. While in the possession of bankers, this $100,000 is clearly capital funds.

Reduction of purchases by the department store in this example operates to diminish the total volume of current orders and of current production. Because producers' incomes are thus diminished, this real liquidation has diminished also the magnitude of future consumption and of future production. Until revenue funds are restored to their previous size, the demand for goods will necessarily be restricted. Differences between real liquidation and current concepts of disinvestment may be examined later. Real liquidation converts revenue money into capital funds and diminishes future output.

Real liquidation and financial saving are alike in their effect upon current and future money income. They differ, however, in their effect upon the nation's capital or wealth. Financial saving curtails consumption simultaneously with its curtailment of production. Though secondary effects may be more serious, the act of saving money does not directly diminish the nation's stock of capital goods. Real liquidation, however, affects production in advance of its effect on consumption. Production is checked by real liquidation and producers' inventories are diminished. Goods are transferred to consumers and are used by them in ordinary consumption. As consumers use up the goods they purchase, the national wealth (its stock of tangible goods or commodities) is diminished. If real income (goods) is contrasted with money values, such liquidation diminishes present real wealth as well as future money income. The extent of its effect on other magnitudes (real income and the dollar value of our wealth) depends on the behavior of prices.

Discrimination between saving money and real liquidation is now

easy. *Saving money,* financial saving, consists of converting revenue funds into capital money by methods that do not operate directly to diminish the nation's current stock of economic goods. *Real liquidation* converts revenue money into capital funds by methods that operate directly to diminish a nation's real capital as well as its future money income.

Conversions of revenue money into capital funds occur only in one of these two ways. A reverse flow, the conversion of capital money into revenue funds, is limited similarly to two processes. Expansion of revenue funds by any method expands, of course, the dollar demand for goods and expands therefore the money value of current and of future production. Such expansion enlarges the dollar magnitude of the national income in future years as well as in the current year. These effects on the national income will be reëxamined later. Differences among our concepts are more important at this point.

Investment is the use of capital money for the purchase of some asset. *Real investment* (perhaps the construction of a building) involves the collection of capital money (perhaps through a sale of securities), and disbursement of this money as revenue funds to people who assist in producing a new capital good. Some of the money, formerly capital, may be paid out to masons and carpenters as wages. By them it may be passed on in the purchase of ordinary consumption goods. Some of the money, formerly capital, may be paid out to the sellers of building materials who may use it to produce or to replace the goods sold. Two aspects of real investment should be noted. The money formerly held as capital is by the process of real investment made available for the purchase of products. In the second place, this money is no longer available for the purchase of securities. Some new act of saving or of liquidation will be necessary before it can again enter the securities market as a demand for bonds. Real investment enlarges revenue funds, but diminishes the funds available for lending.

Real investment stimulates production half a "cycle" in advance of its stimulus to consumption. The consumption-production cycle should be viewed as a circular flow of revenue funds. Though enlargement of revenue funds augments both production and consumption, nevertheless the point at which new funds enter or leave this stream is significant. Funds entering through real investment flow first through production and income payment before entering consumption. In the case of saving money funds flow through production; but they leave the stream before passing through the next consumption stage. It follows that, if money is saved and invested, the consumption stage of one "cycle" is omitted. It is this omission of one "cycle" of consumption that adds to the nation's wealth.

When real investment follows real liquidation, the consequences differ slightly. Real liquidation removes funds from the consumption-production cycle after consumption and before production. Real investment injects funds at exactly this point of departure. If time elapses between liquidation and investment, intervening production-consumption cycles will be on a smaller scale, at least in their dollar values, because the stream of revenue funds is smaller during this interval. Nevertheless, when real investment occurs and the stream is restored to its former magnitude, funds are injected at the point of their departure and no stages of a cycle are omitted. The world's supply of capital goods is therefore restored to its previous magnitude; but, if grocers liquidate and clothiers invest, the character of our assets may be altered.

The timing of real investment may differ from that of money savings. In this connection Mr. Keynes is right if he means to assert that real savings arise only at the time when real investment occurs. Real saving (the saving of goods) does not occur when money is saved. The saving of money checks production as well as consumption. Real investment, however, may create a period in which more is produced than is consumed. Real investment by one group (perhaps house builders) might of course be offset by current money saving or real liquidation among other groups (perhaps retail grocers); but a period in which revenue funds are expanding is necessarily a period in which compulsory real saving is enforced upon some consumers through enhancement of prices. The current stock of capital money can furnish funds for real investment even if expansion of bank credit, current saving and real liquidation were all lacking; but this source of capital money provides neither the facilities of production, nor the productive efforts that are also necessary. In spite of this lack, goods equal to the new investment are produced in excess of consumption during the process of investment.

Real savings, made compulsory by advancing prices, permit this adjustment of consumption. Mr. Keynes overemphasizes the importance of banking policy in his discussion of this point; but he notes correctly that (money) saving makes enhancement of prices unnecessary. Because he discusses only periods of net excess of investment, he can scarcely be criticized for his failure to recognize clearly that real liquidation (perhaps by lumber dealers) may supply the goods as well as the money used in real investment (perhaps by speculative builders).

Real saving consists of producing more goods than are consumed. Using the vocabulary suggested here, the half-cycles in which goods are produced without equivalent consumption occur only when real

investment occurs. Saving money causes unsold goods to pile up in dealers' hands only if dealers are willing and able to make additional real investment. The normal practice of business is to diminish production as sales diminish. Even if this policy were not common, and if dealers did permit inventories to pile up, it should be noted that these additions to inventory must be paid for. Such payment by dealers constitutes real investment. It is this necessity for additional real investment by producers when inventories expand that makes it obvious that augmentation of the nation's wealth arises only from real investment, not from the saving of money income.

Living on principal consists of using for consumption any money that has been previously segregated as capital. Capital money is acquired perhaps by the sale of a bond. This money is then paid out in consumption as revenue funds. The elements of living on principal are two: (1) capital money is converted into revenue funds, and (2) this is accomplished by a method that stimulates consumption at least as promptly as it stimulates production. Just as real liquidation is the opposite of real investment, so living on principal is the opposite of saving money. Financial saving by one family and living on principal by another would therefore simply substitute one set of consumers for another. The money value of a nation's income and the magnitude of its real wealth would remain unaltered.

Real liquidation by one person and living on principal by another would leave the nation's future money income undiminished; but such action would cause elision of the production phase of one "cycle." The national wealth would therefore be diminished to the extent of the goods liquidated by one person and consumed by another. If these goods were needed for production, future real income might be slightly smaller, and future prices might be slightly higher.

If the man who sells a security uses for consumption only that portion of the selling price which is profit to him, such living on principal is called usually the *spending of capital gains*. Because of inferential disagreement with the Brookings report,[1] this point should be expanded. The man who purchases a security uses necessarily money that is already available for purchasing rights. These are capital funds, whether the purchaser has borrowed them from a bank or has saved them himself. The seller of this security may subsequently divide his receipts into two parts. If one of these parts is treated by the seller as capital, the character of this portion of his money is not altered. If, however, the seller decides to use the second portion of his receipts for the purchase of goods he has by this decision converted some capital money into revenue funds. He has also created a demand for products

[1] H. G. Moulton, *The Formation of Capital* (Washington, 1935), p. 149.

that would not have existed otherwise. Consumption and production are both stimulated by his act. If the seller had held all his receipts as capital money, the total volume of consumption and production would not have suffered this expansion and the volume of capital money would not have been decreased.

Living on principal, when it is limited to the spending of capital gains, is peculiarly likely to cause an expansion of brokers' borrowings from banks. The spending of capital gains occurs frequently among stock-market speculators. Such speculators have usually an account with some brokerage firm. When a speculator desires to spend some portion of his gains, he asks his broker to send a check. A broker charges this disbursement to his customer; but such disbursement depletes also the broker's deposit at his bank. To replenish his balance, the broker borrows. Such borrowing expands both brokers' loans and normally the total of all bank loans on collateral. On the other hand, if a speculator saves money out of current income, he may use his savings to increase his margin at some broker's office. Such deposits by speculators expand the broker's cash and permit the broker to diminish his debt.

Alterations in the magnitude of brokers' loans arise then from financial saving and from living on principal. Such alterations arise also from other causes; but borrowings used to pay for securities will largely cancel out when many speculators are in debt. Money borrowed by a purchaser is transferred to a seller who may be forced to use it promptly to diminish his own debt because he no longer owns the collateral upon which his loan was based. Borrowing to pay for securities may thus fail to alter the magnitude of brokers' loans; but there is no such semi-automatic cancellation when money is withdrawn for real investment or for the spending of capital gains. Because some information is available with respect to the magnitude of real investment, data on brokers' loans furnish our best clue to the relative magnitudes of money saving and of living on principal among speculators. Rapid expansion of such loans suggests much living on principal.

Living on principal, real investment, the saving of money, and real liquidation all operate to alter the character of money. All four of these processes are also abnormal in the sense that alternative courses of conduct are more usual. Saving money is common; but use of revenue funds for consumption is more common among families, and use of such money for current production is many times more common in business. Living on principal occurs frequently; but living on income is many times more frequent. Real liquidation and real investment are of everyday occurrence; but the alternatives, to be described next, are far more usual. Because processes that alter the character

of money are abnormal in this sense, revenue money displays some tendency to remain revenue funds. Capital funds similarly, we shall find, display some tendency to remain capital.

The man who saves money may leave it for some time in his checking account. When he invests, he is more likely to buy a seasoned security than to purchase a newly issued bond. Sellers of seasoned securities are in turn more likely to buy other seasoned securities than to undertake real investment. Shifting of investments is common. Sales on the exchanges and elsewhere of seasoned securities may exceed greatly in magnitude the new issues distributed. The ordinary individual, unless he buys a new house, lacks usually the facilities for making real investment. Real investment has become almost exclusively a function of the business enterprise.

After several investment shifts some capital money may come into the possession of a person who will use it to buy a newly issued bond. Even then, conversion of such money into revenue funds is by no means certain. Corporations issue bonds in order to diminish current debt and to finance the transfer of existing assets. Owners who sell out their enterprises or fixed assets to some business combination would regard the proceeds of such sales as capital money. Mere transfer of corporate control, even in the absence of business combination, also involves frequently some redrafting of the corporate financial plan and the issue of securities. Men grow old, retire, and die. Their successors are normally younger and have less capital. Transfers are financed partly by personal borrowings; but they are financed also through the issue of new securities by the business that is being sold. Former owners of the issuing enterprise regard the money they receive as capital.

The purchase of a right is *paper investment*. Because money needed for family expenses cannot be used for the purchase of securities, rights are purchased only with capital money. Sellers of rights also regard the money received from such sales normally as capital. Few individuals when they sell a security use the proceeds for living on principal. Fewer still consider starting a new enterprise. Paper investment fails therefore to alter the character of money. Because many owners of securities lack either the capacities, the amount of capital or the time needed for successful real investment, money that has once been turned into capital displays always some tendency to remain capital money.

Paper investment may lead to subsequent real investment. The man who is saving to build a house might keep his savings in a checking account. He is more likely, however, to open a savings account or to buy seasoned securities. He thus transfers to others the capital money

formerly his. When he builds his house, he may borrow from some financial institution. The latter may thereupon replenish its cash by selling securities and thus acquiring capital money that others have saved or liquidated. The home builder will need also some equity. This he acquires by selling the securities he formerly purchased. He receives thus capital money that was saved or liquidated by others.

Stock exchanges have functions more useful socially than that of facilitating mere investment shifts. Even though securities may not be listed until after they have been sold by the issuing corporation, stock exchanges facilitate real investment by the owners of listed securities. Many a small grocer has without doubt financed the purchase of a new truck by the sale of Steel common or other security on some exchange. Many a corporation does most of its "borrowing" by selling some of the government bonds that it owns. In this manner it can secure the capital money of others without subjecting itself to the hazards of current debt. Exchanges facilitate also living on principal which may become highly desirable in periods of business depression.

Paper liquidation consists of the sale of a right without replacing this asset immediately by some other right or product. The money received from such sales was necessarily capital money to the buyer. By definition now it remains capital money when in the seller's hands. Though extensive paper liquidation may have secondary effects, such consequences are indirect. Paper liquidation, by definition, fails to alter the quantity of either capital money or revenue funds.

Paper liquidation, when conducted by a commercial banking system, is called credit contraction. If business men held capital money to the amount of their debts, credit contraction could occur probably without effect on production; but if business men had held capital money to this amount, they would have used it at once to pay debts without waiting for pressure from a banking system. Some business men may hold securities that can be exchanged without loss for the capital money of others, provided credit contraction by banks has not made capital money scarce also in the investment markets. Credit contraction is effective because normally it compels business men to secure additional capital money through real liquidation. It is this real liquidation that diminishes the dollar value of production and of incomes. It should be noted also that the unused lending powers of banks, if they were to be regarded as money, would necessarily be capital money.

Payment of debt is normally paper liquidation because it is a purchase by the borrower of a right formerly held by his creditor, and creditors may delay reinvestment to some extent. Real liquidation puts large amounts of capital money into the hands of business men.

Because interest charges are watched closely, real liquidation by business is followed promptly by paper liquidation. Business creditors include usually banks. Excess reserves in a banking system are therefore a normal consequence of real liquidation by business.

Disinvestment is an ambiguous term and should be abandoned. According to Mr. Keynes, it is the opposite of investment. Investment, he says on pages 74 and 75 of his *General Theory of Employment, Interest and Money,* might be restricted to the purchase of a security on some exchange, but should properly include the purchase of any asset "out of income." His concept of investment seems open to criticism on two grounds: (1) it fails to discriminate between real and paper investment, and (2) it fails to discriminate between ordinary purchases which use revenue funds, and investment which involves the use of capital money.

The ambiguity inherent in Mr. Keynes's use of the term has been developed for the worse by subsequent writers. It has been used on occasion to indicate any one of the following: (1) real liquidation, which diminishes the money income and the real wealth of a nation; (2) living on principal, which expands money income but leaves real wealth unaffected; and (3) paper liquidation which fails to affect directly either money income or real wealth. Since the acts that may be called "disinvestment" differ so greatly among themselves, it is suggested that this term be simply abandoned and more accurate concepts substituted.

Does the saving of money equal real investment? With these concepts in mind, it becomes obvious that the two processes could be rendered equal only by accident. The existence of business recessions indicates that the sum of money savings and real liquidation may on occasion exceed the sum of real investment and living on principal. An excess of living on principal and real investment over money savings and real liquidation would be evidenced by business revival. Obviously the total volume of revenue funds is not a constant.

Because revenue funds and capital money are both balance-sheet items, a technique for measurement is suggested below even though mere description of this technique reveals how inadequate is our present information and how inaccurate is any estimate based on this technique at the present time. For this purpose the relation of revenue funds to the national income must be examined briefly. If the exchange velocity of revenue funds (to be represented by V_r) is defined as the average number of times each dollar of revenue funds is transferred in a year, and if I_r is defined as the percentage of these payments that are income to the recipient, then the product, $R\ V_r\ I_r$, because of these definitions is equal to the national income paid

out. Obviously also the product of V_r and I_r is an income velocity of revenue funds. Separation of income velocity into its two components is, however, useful here.

Variations in the exchange velocity of capital money (V_c) may perhaps be limited only by the choices of owners of such funds, and the exchange velocity of such money may therefore be highly variable. Variations in the exchange velocity of revenue funds, however, are limited by more tangible elements. The wage-earner must make his revenue funds last normally until the next pay day. Some farmers must make their revenue funds last until after the next harvest. Business men are less restricted; but in many industries there are standards as to the amounts of cash required to handle a certain volume of business, and a trade "service" tabulates such information annually for the lending officers of banks. Exchange velocity in such industries is not constant. Alterations of business policy, alterations in the structure of business, and alterations of the direction in which income is spent all affect presumably the velocity of revenue funds (V_r); but for any brief period the range of variations in this average velocity may well be more restricted than the range of variations in the average velocity of total money. If V_c is much smaller than V_r (perhaps in 1941), then variations in the exchange velocity of all money may arise solely from variations in the relative magnitudes of revenue funds and of capital money without alteration of the exchange velocity of either. The point immediately significant is that variations in the exchange velocity of total money do not necessarily indicate equally large variations in the exchange velocity of revenue funds.

The payments of revenue funds that are income to the recipient form a variable percentage of the total payments made by use of revenue funds. Seventy per cent of the payments made by some railroad may be income to the recipients. In some wholesale establishment, on the other hand, this percentage may be as small as ten. Alterations in the structure of business and alterations of the direction in which consumers spend their incomes could cause large changes in the magnitude of I_r; but changes of this kind, if large, are not likely to occur suddenly. Alteration of profit margins and of the percentage of profit paid out could, however, cause this ratio to be altered quickly.

Business prosperity and the expansion of business volume tempt business men to turn over their cash more rapidly; but such periods operate also to expand profit margins and to diminish the percentage of profits paid out. Examination of financial statements reveals that, when business is improving, V_r tends to expand and I_r to contract. When business volume is diminishing, business men hold more cash relatively to sales; but business profits are decreased and out-pay-

ments of income tend to become a larger percentage of business revenues. During business recessions V_r is diminished, but I_r is increased. The income velocity of revenue funds (V_r I_r) is apparently more stable than either of its components. It seems quite possible that the income velocity of revenue funds may well be more stable than the income velocity of total money.

In the calculation presented below, it has been assumed that the income velocity of revenue funds remained constant for several years. Such absolute constancy is of course improbable; but in the present state of our knowledge the use of any other assumption would be even more unwarranted. Use of this assumption makes possible an illustration that will both clarify and shorten the description of certain additional attributes of these functional classes of money. The illustration used here covers the years 1929-1939. In addition to cyclical causes of variations in V_r I_r, the growth of government expenditures for relief after 1932 may have altered the direction in which the national income was spent so greatly that the value of V_r I_r was affected perceptibly. After 1939 the growth of armament expenditures introduced a further element that might affect V_r I_r. In general, each year that comparison is extended, increases the probability of significant variation in the income velocity of revenue funds. It is believed, however, that variations of V_r I_r during the period 1929-1939 were not great enough to render this illustration misleading for the restricted purposes for which it will be used here.

In order to estimate the magnitude of capital funds in 1939, it is necessary to start with 1929. This is the most recent year with respect to which we have reason to believe that capital funds were substantially exhausted. Six years of rapid real investment had been followed by a year in which realized capital gain reached an estimated magnitude of about 6 billion dollars, and real investment was then supplemented by the spending of some portion of these gains. Brokers' loans and total bank loans on collateral became greatly expanded. Even an enormous initial stock of capital funds, if available in 1922, might well have been depleted by the fall of 1929. During the latter year also the sale of new bond issues became difficult.

The most convincing evidence of a shortage in 1929 of available capital money arises, however, from a different source. Small recessions in the prices of stocks ceased to attract significant increments of capital funds into the market. Recession of security prices became more rapid—again without attracting adequate additional capital funds. Because investors had been exceptionally confident during the earlier months of 1929, it seems possible that the market supply of C_a offered at the rates of yield current in mid-summer may well have included

substantially all the capital funds then available for investment at any rate of yield. Supply of capital money had certainly become inelastic. In the fall of 1929 the supply of capital funds had apparently also reached its minimum. An alternative explanation—that investors increased their liquidity preferences at this time both suddenly and by large amounts—would suffice only if this change of heart affected substantially all investors simultaneously; but if C_a were indeed depleted, then relatively small amounts of paper liquidation, real investment, or living on principal could force rapid recession in the prices of securities.

Minimum capital money does not imply that all money had become revenue funds. Even if purchases of securities were paid for in some instances by money derived from sales made in a subsequent hour, still some volume of C_a was necessary to finance investment transactions. This volume may have been small. Because a broker combines the cash of all his customers into a single account, the use of brokers diminishes the total need for capital money. Organization of the Stock Clearing Corporation in 1919 resulted in further economy of the money needed to finance transactions in securities. Professor Huebner has indicated that the cash actually used by brokers in New York during 1929 averaged less than one-fifth of the daily transactions. As a percentage of the year's business such an amount of capital money is trivial indeed.

Capital funds, however, include C_n as well as C_a. A prolonged period of expanding income may be expected to enlarge the amount of money held as an investment and not available for current purchases of securities; but rising prices in the securities markets may cause alterations of investment policy and may thus diminish C_n. Financial institutions that publish statements of condition held in 1929 balances that seem small by present standards. A small survey limited to personal acquaintances suggested strongly that the volume of capital funds held by individuals was also small during the autumn of 1929.

For these reasons a magnitude of only 5 billion dollars has been assigned to total capital money for the year 1929. This estimate, it should be emphasized, is no more than a somewhat painstaking guess. Its error may be sufficient to invalidate its use for any purposes except those for which it will be used here. If 5 billions, however, were the magnitude of total capital money in 1929, then revenue funds in 1929 amounted necessarily to 23.3 billion dollars.

By definition also, $R\ V_r\ I_r$ equals income paid out. Substituting now in this equation the Department of Commerce estimate for income paid out (81.65 billions), we find that the indicated income velocity of revenue money for 1929 was approximately 3.51 per year. This

estimate differs from Professor Angell's figure for "circular velocity" in the right direction and perhaps by about the right amount. By assuming—and this may be the more dangerous assumption—that income velocity remained constant for the next ten years, the following values were derived. In the following table M is money in circulation outside of banks; M^1 is demand deposits exclusive of those of the United States and interbank accounts; R + C is total money, R is the amount of revenue money as indicated by the calculation suggested above; C or capital money is—except for 1929—a remainder found by subtracting revenue funds from total money. C_1 (the cash held by life insurance companies) is appended for comparison. Results are quoted only to the nearest tenth of a billion dollars.

Year	*M*	*M*¹	*R* + *C*	*R*	*C*	C_1
1929	3.9	24.4	28.3	23.3	5.0	.1
1930	3.7	24.1	27.8	21.3	6.5	.2
1931	3.9	21.3	25.3	18.1	7.2	.2
1932	4.9	16.4	21.3	14.1	7.2	.3
1933	5.0	15.2	20.3	13.3	7.0	.5
1934	4.7	17.5	22.2	15.4	6.7	.6
1935	4.8	21.6	26.3	16.7	9.6	.8
1936	5.2	25.4	30.6	19.4	11.2	.8
1937	5.5	26.9	32.4	20.7	11.8	.7
1938	5.4	25.9	31.3	18.9	12.4	.8
1939	6.0	28.9	34.9	19.9	15.0	.9

Business recession is presumably a period during which capital money is augmented. During the years 1929-1931, real liquidation by business coöperated with the saving of money income to curtail revenue funds and to expand capital money; but credit contraction by banks wiped out much capital money and bank closings destroyed revenue funds as well as capital money. Future corrections may alter the magnitudes reported above; but collateral evidence supports the conclusion indicated by these estimates. In spite of credit stringency among banks, the nature of the investor's problem had been altered by 1931. Lack of capital money was no longer his chief difficulty. Liquidity preference or lack of investment confidence was a more significant element in 1931 than in 1929.

During the years 1932-33, however, credit contraction and bank closings proceeded so rapidly that capital as well as revenue money money was diminished. Ordinarily business recession, because it involves real liquidation, may be expected to provide the capital money (as well as the excess bank reserves) needed for financing subsequent business expansion. During 1932-33, however, so much of the capital money created by business liquidation was subsequently destroyed by

bank liquidation that the amount of capital money left available in 1933 for financing business revival was inadequate to finance substantial recovery. In 1933, then, good reasons existed for increasing bank reserves and for facilitating credit expansion by banks. The conclusion to be drawn from the estimate for 1933 agrees then with established opinion.

During the year 1933-34, the money created by credit expansion was absorbed rapidly into revenue funds. A diminution of capital money is also to be expected in a period of greater real investment and living on principal.

One aspect of the year 1934-35 deserves especial comment. Granting the limitation on total consumer demand that is implicit in the concept of an income velocity whose variations are limited by tangible forces, it follows that a business revival with its expansion of revenue funds may be prevented by an excessive general level of prices as well as by a faulty price structure or other elements. If revenue funds of 23 billion dollars were needed in 1929 for normal production at the prices current in 1929, and if the variations of income velocity (V_r I_r) are limited substantially by tangible elements, then revenue funds of 15 billion dollars in 1934 could facilitate a similar physical output only if the prices charged to consumers had also fallen approximately in the ratio 23 to 15, because revenue funds must pass through consumption as well as through production. Since the average price of finished products in 1934 exceeded the level established by this requirement, there was presumably a price-level obstacle to business investment in addition to such obstacles as may have arisen from other causes. Until 1936 the volume of revenue funds was inadequate to permit full employment of productive facilities at the prices then current. When existing facilities are not utilized, business men have little reason to undertake real investment. If commodity prices and construction costs are both abnormally high relatively to consumer income, then housing construction may be curtailed with especial severity.

Revenue funds, expanded largely by government activities, attained approximate adjustment to the price level in 1936; and approach toward this adjustment may well have facilitated the business expansion of that year. Business liquidation in the year 1937-38 must then be explained on other grounds, such as a disproportionate advance of wage rates or events in Europe. Though the gigantic subsequent magnitude of capital money may raise practical problems, the events of 1934 and of 1937 are more significant here. Approach to the problems of real investment through a use of the concepts presented here,

though it tends to emphasize the significance attached to a general price level, does not diminish the importance assigned to the internal structure of a price system.

Even though the estimates presented above may suffer future correction, this illustration has indicated the behavior that should be expected from capital and revenue money. It suggests also the possibility that at some time a technique may be developed which will measure the relative importance at different periods of the various obstacles to real investment, such as a scarcity of capital funds (1929), liquidity preference among business men and investors (1931), an excessive general level of the prices demanded from consumers (1934), and a faulty internal structure of the price system (1938). Among the forces that affect the national income directly, there is a noteworthy lack of any good index of living on principal by nonspeculative investors.

In the March and June issues[2] of this journal Dr. Mordecai Ezekiel presented measures of saving, consumption and investment. To any one familiar with the difficulties in this field his achievement is impressive. His measures of consumption and investment are extremely valuable; but he measures saving by measuring "offsets to saving" on the hypothesis that "in any one year total investment equals total saving."

This common idea that financial saving is equal to investment seems to be based solely on a pun. Saving, the process, is confused with one result of financial saving; namely, capital money left in the possession of savers. The moment one trains one's self to call this result by a name different from that applied to the process, it begins to be obvious that the process of saving money has also other results and that nothing tangible is created by the saving of money income.

Dr. Ezekiel's "offsets to saving" consist of real investment minus real liquidation plus the more measurable portions of living on principal. He cannot be criticized for his failure to complete the measurement of living on principal. That process appears often in forms that defy present statistical controls. His error, if it may be called such, is his assumption that the amount of capital money remained constant throughout the period 1921-1940. The amount of capital money is, however, highly variable.

The error created by substituting "saving" for "offsets to saving" is of course less than the 10 billion dollars by which capital money was increased during the period 1929-1939. Total money was expanded by 6.6 billions during this period, and a large share of this new money

[2] *Statistical Investigations of Saving, Consumption, and Investment:* Part I, *Am. Econ. Rev.*, Vol. XXXII (Mar., 1942), pp. 22-49; Part II, *ibid.* (June, 1942), pp. 272-307.

became capital funds. Errors resulting from the use of a constant value for $V_r I_r$ in the sample calculation presented above may also have been large; but evidence of many kinds indicates unmistakably that money savings in 1929-1939 exceeded "offsets to saving" during that period by several billions of dollars. The savings that were not absorbed by "offsets to saving" expanded the cash balances held by life insurance companies in 1930-1940 by 896 million dollars. Such savings enlarged also the balances held by other institutions and expanded to unprecedented magnitude the idle cash held by private investors. Because of the nature of present investment processes, such individuals are almost necessarily the principal owners of capital money.

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PRICE CONTROL AND RATIONING

SOME ASPECTS OF PRICE CONTROL AND RATIONING[1]

By W. W. Rostow

I. The Fall of Selective Price Control

The freezing of retail prices, on May 18, 1942, brought to an end the period of so-called selective price control. In September 1940 when efforts at price control were first informally begun, there were already those, marked by the experience of 1917-18, who advocated a general freezing of prices and wages. The majority of economists, however, opposed such wide and drastic action at that time. The impact of the armament program was still extremely uneven, and it was felt that price and wage increases in certain areas might usefully serve to redistribute resources and to stimulate output, at least up to the level of current fixed capacity. Control was instituted in those individual markets where existing and anticipated war demands were most strongly felt and where substantial price increases had already taken place—at first largely metals and metal products, and lumber. During the year 1941 most of the basic materials, other than farm products, and some semi-fabricated and finished goods, were brought under control.

Between February and December 1941 some 45 formal price schedules were fixed. In December 1941 and January 1942, with the sharp acceleration in production and production plans, 42 schedules were required. In the year ending January 1942 the average monthly increase in wholesale prices was at a rate of 1.7 per cent; in the month after Pearl Harbor, at a rate of 2.6 per cent. Retail prices rose even more rapidly. The control of prices through individual markets was no longer feasible.

Broadly, then, history will regard selective price control as the instrument more or less appropriate to the early stages of rearmament, the

[1] Editor's Note: This paper was presented to the *Review* by Professor Edward S. Mason, chairman of the Conference on Price Research, with the following note: "The annual meeting of the Conference on Price Research at the National Bureau of Economic Research, May 8, 1942, was devoted to a discussion of general maximum price control and of rationing. The speakers at the conference were Donald Humphrey, Hans Neisser, Paul O'Leary, Harold Rowe and Richard Gettell of the Office of Price Administration, and A. F. W. Plumptre of the Canadian Legation in Washington. This paper is a condensation of the remarks and discussion and was prepared by W. W. Rostow, Office of Strategic Services."

universal price ceiling and rationing as a concomitant of the full war effort. The rough justice of this view should not, however, conceal the particular forces which necessitated the abandonment of selective price control; for, in itself, the "freeze" does not guarantee their easy regulation.

Under selective price control prices representing roughly half the productive activity of the economy were, at various dates, frozen at the wholesale level. These were, for the most part, prices of widely used industrial raw and semi-manufactured materials, and industrial equipment. It was hoped that industrial costs, in general, would be held in check by the stabilization of these prices.

At best, this method promised to limit the rise in certain categories of industrial costs. There was no control of farm prices, and rising foodstuff prices intensified the pressures, in an otherwise tight labor market, for higher money wages. Government contracts, replete with escalator clauses, were being let at unit prices which failed to take account of the cost-reducing consequences of large-scale production. And, on the side of demand, no serious effort was made in our fiscal policy to limit incomes to a level commensurate with the supply of goods available at current prices. In this setting, the controlled prices held, but the uncontrolled prices continued their steady rise.

As conceived by its advocates selective price control was never regarded as a sufficient device. Under the protection of adequate fiscal and wage policies, and with a free hand in selecting the prices to be controlled, it might have succeeded in controlling the price structure as a whole and adjusting and guiding it to meet the accelerating pace and changing character of the war effort. The Treasury did not, or perhaps in the nature of the political atmosphere could not, accept its central deflationary rôle in such a scheme; while other political forces limited the extent to which controls might be applied to money wages and to farm prices. Selective price control in practice was, therefore, neither the reflection nor the testing of a general theory so much as an opportunistic compromise. Pearl Harbor was required to give shape to our economic as well as to our military policies. When, early in 1942, the Office of Price Administration found itself virtually administering an inflation, a more powerful and direct instrument of control was necessarily invoked.

II. The Freeze

The freeze order is distinguished from the earlier procedures not only because it is general, but because it brings its pressure to bear at the retail as well as at the wholesale end of the price structure. The theory of its operation is, simply, that the business man can no longer look

to Washington and upward adjustments for relief. The ceiling is fixed. Under it, the retailer, the distributor, the wholesaler, and the manufacturer must, in general, find their own salvation. Official relief can not take the form of price increases; only a selective dispensation of subsidy remains.

The freeze order thus has the central advantage of breaking the cumulative circle. A pressure from the side of costs must, in the typical case, be resolved in the market for factors of production where it originates. Ideally, it can not be transmitted.

This new relationship based on a fixed outer price limit is, of course, of special importance as a means of halting the rise of wage rates. The persuasive case for a stabilized level of wages could only be made when the rise in the cost of living had been checked. It was, in the nature of labor's experience, impossible to curb the agitation for higher money wages in the face of rising retail prices. That kind of real wage reduction was not tolerated; whereas a reduction engineered through rationing, taxation, and forced savings, within the framework of fixed retail prices, enjoys a reasonable opportunity of popular acceptance.

III. Gaps in the Freeze Order

It seems doubtful, however, that the price freeze is going to cause unemployment, or even a material shortening of work hours among the price administrators. In the first place, the freeze order in its present form is not complete in its coverage. It has three major gaps. About 29 per cent of the food component of the cost of living, and 20 per cent of wholesale food prices are uncontrolled; this leaves an estimated 13 per cent of the cost of living outside the jurisdiction of the order.

Secondly, no formal provision has been made for the control of money wage rates. Opinion differs as to the seriousness of this omission. A number of forces are operating in such a way as to facilitate labor self-restraint: the retail price freeze, the pressure of patriotic appeal, the announced stabilization aim of the President and the War Labor Board, and the narrowing range of possible consumer expenditures. A surplus of cash has characterized the wartime condition of both British and German working men. On the other hand, as the Canadian experience indicates, many employers may find themselves able and willing to countenance higher money wage rates. Unless effective steps are taken to control labor mobility, a competitive bidding up of wage rates may add to the burden of the price problem in both its fiscal and administrative aspects.

The danger of voluntary wage increases is reinforced by the third

major gap in the price control order. Government contracts have not yet been subject to formal regulation. Some contracts contain escalator clauses that permit the automatic transfer to the government of cost increases. It is too early to measure the importance of this factor. The current tendency is, in fact, to re-negotiate contracts at lower unit prices, in somewhat belated recognition of the economies of capacity output and of large-scale production. Nevertheless, a way remains open for bringing abnormal competitive pressure to bear on producers who are not able to transmit wage increases to their consumers. The use to which the escalator clause is put clearly demands vigilant and critical scrutiny.

IV. The Squeeze and the Roll-Back

As noted earlier, a readjustment of cost-price relationships within the framework of a retail price ceiling is intrinsic to the price order in its present form. Among the groups affected the retailers have been subject to a special pressure. This pressure—the squeeze—arises because some retailers were selling, on the base date, at prices based on the cost of goods purchased at an earlier date and not on a replacement cost basis. If all retailers were, on the base date of the general ceiling, setting prices on a replacement cost basis, there would be no squeeze. In fact, no special problem exists in the case of eggs, meats, and other nonmanufactured foodstuffs which have a short period of turnover. The squeeze is, of course, most severe in the case of manufactured goods, a considerable inventory of which is normally held in stock.

The general theory of the freeze order is that the Office of Price Administration, aided by the natural pressure from the retailers, should take the initiative and force wholesalers and manufacturers to lower their prices in such a way as to reëstablish normal cost-price relations throughout the economy. A nadir in Washington administrative jargon was reached when this process was called "rolling back the squeeze." To the extent that the pressure from the retailer succeeds in forcing a general downward adjustment in the price structure, retailers eliminate a major burden for the administrators. They are, in any case, placed in the position of having a heavy vested interest in resisting any upward creep of prices on the manufacturer's or wholesaler's level.

It is of the nature of a modern war economy that the retailer and distributor, in general, must suffer. In the case of automobiles and other durable consumers' goods decimation has already occurred. The problem of dealing with such instances is essentially independent of the price freeze order. But where a lowering of prices at the manufacturing stage is impossible, and where bankruptcy can not be countenanced, subsidies

may be required. An effort has been made to measure the maximum sum that might be involved in supporting by subsidy the retailers' position. It is estimated that wholesale prices would have to be lowered by about 3 per cent to eliminate the present squeeze on retail prices: that represents the net lag of retail behind wholesale prices from June 1939 to March 1942. Excluding meats and nonmanufactured foods, assuming that retail prices are fixed by means of a constant percentage mark-up and that the roll-back will not operate, this might involve annual subsidy payments of the order of 600 to 700 million dollars, if the retailer's profit position were to be maintained.[2]

This figure has been confirmed, as an outside limit, by an independent calculation. The average turnover period, by type of retail store, was established as of 1939. The testimony of retailers indicated that inventory costs were taken as an average of original and replacement cost. The lag could, therefore, be expressed as one-half of the turnover period. On this basis the sum necessary annually to compensate for the squeeze was calculated by type of retail outlet. It came to 650 million dollars.

In fact, outlays on this scale are not likely; because (1) some roll-back can be expected; (2) a considerable proportion of the retailer's costs are fixed, and a mark-up proportional to the rise in wholesale prices would not be required to maintain the retailer's net income; (3) the absorption by some retailers of a part of the squeeze may be possible without endangering their solvency, in the present state of reserves and profits; and (4) the subsidy will not, in fact, be used to maintain all retailers in business. The problems facing the administrators are likely to be problems in special markets and special regions. The freeze procedure in itself is not calculated to convert the retail trade as a whole into a distressed area.

A special and important case of a not dissimilar lag is that of money wages. A part of the hesitancy on the part of the government to establish formal wage ceilings may well have stemmed from a fear that the fixing of March retail prices might involve some general discrimination against labor. On the whole, however, the wage rises in coal, iron, and other basic industries, in the course of 1941, are believed to have established a situation which will permit the acceptance by labor of the March range of retail prices if that level of retail prices is, in fact, held. Some upward adjustments, in certain of the labor markets, may be required, and have, in fact, occurred since the freeze order. But if the wage agreements in the major war industries can be maintained, it is possible that labor's dissatisfaction in the course of the war will not take the form of a general demand for higher money wage rates.

[2] It is worth emphasizing that not only the retailers themselves, but also landowners and municipalities have a substantial vested interest in maintaining solvency in retail trade.

V. Quality Deterioration—Implicit Inflation

A difficult, but not necessarily dangerous problem is raised in the administration of the price order by the deterioration in the quality of manufactures which is already under way and which can be expected to become more acute. The refined and various output of our pre-war industrial machine yielded, in each market, a complex array of similar goods of differing quality, sold at different prices. The clothing trade offers, of course, a prime example of this complexity.

As quality deteriorates it is unlikely that, on their own initiative, retailers will concomitantly lower prices. An extra profit for the retailer, or a profit shared throughout the chain of relevant markets, results. To the administrator this windfall is not a major threat; since it produces no direct pressure against the price ceiling. It involves a cut in real income for the community, and enlarged business profits. The OPA can, of course, exert formal and informal pressure for retail price reductions at the manufacturing and distribution levels; but the issue is likely to remain peripheral. Perhaps the best solution is the development of standardized and uniformly priced products over a wide range of consumers' needs.

VI. The Price Freeze and Production

Selective price control, as a concept, envisaged the use of the price mechanism as a means of stimulating production in the directions which the armament program indicated as desirable.

There is some doubt as to the extent to which OPA policy, prior to the freeze, positively contributed to increased war production; but it is evident that selectively controlled prices forced no large number of necessary producers into bankruptcy. To the extent that prices remained free to fluctuate in response to war demands, the rough purposes of the war program, at that stage, were served.

The price order, however, arbitrarily freezes the price structure at a given moment in time. Should the requirements of the war effort alter, it inhibits a price increase from evoking automatically a desired increase in production. In an otherwise uncontrolled economy, a price freeze would, undoubtedly, have important and probably undesirable effects on the allocation of resources. The power of subsidy, however, as recently employed in the case of scrap rubber, avoids the principal danger inherent in this situation. The presence of Mr. Henderson in the War Production Board affords the possibility of a unified production policy, in which subsidies play their part, along with priorities and direct allocations, in achieving the desired disposition of resources. The

problem posed by a rigid price system faced with shifting tastes and demands is more likely to arise in some future planned economy than under the direct controls of modern warfare.

VII. Rationing and the Freeze

The freezing of retail prices represents a decision on policy with respect to one of the three major variables that will determine the distribution of civilian goods during the war. In general, the problem of distribution is one of matching the supply of goods and the flow of spendable income, at a desired price level, and of absorbing (or neutralizing) the residual fund of spendable cash in consumers' hands. If this process is fully to be controlled, closely interrelated decisions must be taken with respect to price levels, appropriate allotments of relatively scarce goods, and the removal (or neutralization) of excess funds in the consumers' goods markets. In fact, distribution is not fully controlled in the United States. Nevertheless, control measures in each of these three directions have been taken.

Prices are now being held to maximum levels lower, in many cases, than those that would obtain if consumers were free to compete for scarce supplies of goods; and the rationing of certain scarce individual commodities, on some socially equitable basis, has been attempted. Finally, taxation sufficiently severe to narrow substantially the inflationary gap is being sought.

VIII. The Case of Sugar

Rationing has thus far been confined to cases where the special conditions of the war have substantially reduced current supplies: notably sugar and gasoline. The case of sugar, where rationing policy and procedures appear to have been fairly well stabilized, reveals many of the problems that will characterize other rationing efforts; although, of course, the sugar market is, in many ways, distinctive.

1. The Point of Initial Control

A primary rationing problem is to establish control over the flow of supplies at that point in the market which presents the least administrative difficulties. In most cases that point occurs where the market is narrowest; *i.e.*, where the smallest number of operators handle the total supply. In the sugar market control was established at the point of import for direct consumption sugar, and at the point of refining in the case of beet and cane. The importers and refiners must account for all sugar sold as direct consumption sugar, either by turning over the

instruments received in connection with the rationing to civilian users, or accounting for it as having been sold to the government. They are the final collectors of the coupons of civilians and the allocation certificates of industrial consumers of sugar.

2. Initial Stocks

The ability of the wholesaler or retailer to secure supplies depends on his surrender of coupons or certificates. The amount of these available depended in large part on the stocks of sugar held when rationing went into effect. Those who held no stocks would, in effect, be out of the market for the duration. Those with excessive stocks were at a great competitive advantage. To meet this situation an effort has been made to adjust distributors' stocks to a level meeting the needs of his normal turnover. Sugar stocks have not been physically transferred; but, for a time, allotments have been made on a selective basis, designed to produce a roughly uniform relation between stocks and the normal volume of sales. With this adjustment the sugar allotments can be employed as a useful measure of the distributor's importance in the market as a whole; and future food rationing allotments may be made on the basis of the present flow of sugar through the various retail and wholesale outlets.

3. The Determination of Total Supply

A delicate question that had to be answered before civilian or industrial allotments could be made was the size of the flow that could be expected over the immediate and middle future. Ideally, for those charged with rationing, this figure should be a given, determined by the WPB. The OPA can only serve as the administrative middleman, distributing with minimum friction the supplies available after the more urgent but capricious demands of the war effort have been satisfied. Even in the case of commodities grown or manufactured within the United States, a supply figure guaranteed to hold over any considerable period of time can not be furnished by the WPB. In the case of sugar the problem was accentuated by the partial dependence of supply on imports and shipping allotments. It is clear that the figure for supply, on which the initial rationing periods were actually based, was something of an approximation.

4. Civilian and Industrial Allotments

The mechanical problem of designing and printing ration books and of mobilizing a staff for civilian registration was, of course, enormous. Nevertheless, that aspect of the task, and the gaining of public acceptance, proved relatively tractable. More serious difficulties arose with

respect to allocations for institutional and industrial users. As the pilot commodity in the field of food rationing for household consumers sugar was eminently satisfactory. Its wide commercial and industrial use, however, introduced numerous complexities.

Among other uses sugar is employed in the tanning of leather, the manufacture of powder, and the feeding of bees and canaries. In some uses the product to which sugar contributes is of greater importance, under present conditions, than sugar itself: in canned meats, preserved fruits and vegetables, canned milk, and so forth. In such cases sugar was allotted for all units of the desired product available. Efforts have been made to induce economy in such uses, but no vegetables or meat will rot for lack of sugar.

Restaurants and institutions have been allotted 50 per cent of their usage in the corresponding months of 1941; or, to take account of the large turnover in restaurant ownership, March 1942 may be used as the base for all months. All other users have been allotted 70 per cent of 1941 consumption rates: bakers, confectioners, bottlers of soft drinks, and so forth. Rationing of this category has revealed strikingly the extent to which the public is attached to different manufactured foodstuffs. The cut in sugar allotments to bakers has caused little complaint; restrictions on bottled drinks, however, have created real difficulties. The speed-up of industrial operations has entrenched the mid-afternoon Coca-Cola as a national institution.

5. Special Adjustments

Two residual problems of considerable importance are the supplying of supplementary sugar allotments to expanding defense areas and to housewives for home canning. In many rapidly growing communities restaurants, hotels, and other institutional consumers are springing up; and in most cases their demand is legitimate. Further, the local bottlers of soft drinks, with allotments based on pre-war consumption, have found themselves unable to meet requirements. The working out of satisfactory adjustments has proved a complex administrative problem. Similarly, the use of sugar in home canning is clearly of high priority; but the elaboration of a system of supplementary rations, representing a minimum compatible with the avoidance of spoiled fruits and vegetables, will not be an easy task.

6. Equating Supply and Demand

In a sense, the experience of sugar rationing offers a partial answer to the old academic controversy concerning the possibility of fully planning the operations of a given market. The practical as well as the theoretical resolution appears to be a method of trial and error. Neither

supply nor demand, under the conditions of the experiment, was exactly known. Presumably the allotments for the first rationing period were set conservatively, in the light of expected supply, with the expectancy of either achieving a net increase in stocks at the end of the period, or a more or less exact balance between the current flow of supplies and current consumption. It was realized, however, that many of the data upon which this informed series of guesses was made might change; and in fact they did change, notably with respect to the shipping situation. But a close scrutiny of the mass of evidence pouring in to the administrators should supply a basis for immediate adjustment of unit allotments or of rationing periods, if that is desirable; and, over a period of time, their experience should yield an increasing sense of the magnitude of the variables that determine supply and distribution in the markets for sugar and other foodstuffs.

7. Block Rationing

The distribution of sugar was set up in such a way as to permit an easy extension of rationing to other scarce foodstuffs. The experience of both the public and the administrators with the problems of sugar will, surely, facilitate the rationing of other commodities in this field. The extension of rationing will, however, almost certainly involve dealing with some commodities less homogeneous than sugar. Sugar's virtual uniformity in quality and, so far as noncommercial rationing is concerned, singleness in form helped make it an ideal pilot in the field. In the case of (say) canned goods or meats a more complex system of points will have to be worked out. Within the field of canned goods, for example, prices may be quoted in points as well as in money terms; and within his total point supply the consumer may exercise a certain independence of choice. Changes in consumers' tastes can be easily met by an adjustment of the point-prices attached to the various commodities. In this way, it is envisaged, rationing can flexibly expand—commodity by commodity, block by block—under the probable gradual tightening of supply conditions.

IX. The Rationing of Apparel

It is possible that at some stage of the war effort civilian clothing will have to be rationed. The complexities of this potential problem emphasize the relative simplicity of rationing sugar. Clothing is heterogeneous; it varies in quality; the demand for it varies with age, occupation, locale, and season; it is manufactured by numerous firms; and it is semidurable. From these characteristics stem the major difficulties in any system of clothing rationing.

1. The Problem of Timing

It is approximately ten months between the time a mill begins weaving and the time the finished garment appears at retail. This lag between the flow of raw materials and finished output affords a useful interim to those who may be called upon to institute the rationing of apparel. If rationing were introduced immediately upon the appearance of a raw material shortage, the various stages in the market would hold substantial stocks capable of cushioning the supply situation, and of permitting a fairly general type of rationing. If rationing were permitted to await the appearance of shortages at the retail end, it is likely that the administrators would be faced with the interminable problems of selective rationing: according to age, occupation, and so forth. A general point system, with occasional exceptions, might be impossible.

The semi-durable character of clothing requires, further, that the planning of rationing be done with real secrecy; and that the procedures be introduced virtually without warning. At worst, the hoarding of sugar in anticipation of rationing, caused stock-piling by some individuals of a few weeks' or months' supply. Even this amount of hoarding proved largely correctable. A run on the clothing stores, however, many of which are swollen with stocks, might involve the purchase of a supply for a year or more by a sufficient number of persons to affect the whole basis of the rationing scheme.

2. Some Problems of a Point System

It would be all but impossible to apply a point system to the full range of apparel available in the pre-war clothing market. Differences in style, service, quality, and type of garment involve degrees so fine that a money price system is required fully to reflect the shadings. The distinctions are such that it would be impossible even to define the various grades of clothing within the retail markets, in formal administrative terms. The European experience has been that standardized garments, for large-scale consumption, were a necessary condition for successful rationing.

Almost any rationing system, even for standardizing garments, must take account of the needs of special groups in the population. The wide range of American climate; the requirements of the heavy worker, of children and expectant mothers—all these and other legitimate distinctions promise the potential administrators elaborate difficulties, especially if the total supply situation has badly deteriorated by the time rationing is introduced.

The actual construction of a point system for clothing involves, in simplest terms, the allocation of coupons just sufficient, over the neces-

sarily long rationing period, to absorb the supplies available. Initial information, both as to the size of clothing stocks and consumers' habits, is even more unsatisfactory than in the case of sugar. It is believed that, at the retail, wholesale, and manufacturers' level, there are very substantial stocks of clothing; but it is evident that they are distributed very unevenly. Some sellers have rented warehouses, others are already in short supply. A reallocation of stocks in the clothing market is certainly not as tractable a problem as in the case of a single homogeneous commodity, such as sugar.

The apparel industry, in fact, is not a single industry but a complex of different industries variously organized. With respect to shoes, where there are perhaps a thousand manufacturers, satisfactory points of control might be set up, back to which the consumers' coupons might filter for collection. In hosiery and apparel, however, the raw materials have alternative uses, and they proceed to the finished stages by widely differing routes. There is no narrow point in the market, through which the total supply regularly passes, where the administrators could withdraw the coupon currency and exercise the necessary controls. It is therefore not surprising that, in both Britain and Germany, the institution of rationing has been accompanied not only by a standardization of clothing types, but also by a reorganization and rationalization of the industry as a whole.

X. General Rationing

The rationing of specific commodities, or even blocks of commodities, is a consequence of particular material shortages. A general rationing system, however, depending upon the outlook of the analyst, is a necessary preliminary, substitute, or complement to fiscal policy. Specific rationing, in a market where maximum prices are fixed, merely ensures an equitable distribution of a scarce good; and to the extent that it limits total money expenditure in one direction; it exacerbates the problem of price control in others. General rationing, however, whatever its particular form, is designed so to limit spendable currency as to match the total value of consumers' goods in the markets.

This aim, theoretically, might be achieved by a fiscal policy sufficiently severe to withdraw funds from the system on a scale such that, at current prices, total spendable cash equalled the total value of consumers' goods. There are three major objections to this procedure. First, fiscal policy can control only the size of incomes, not the total supply of spendable cash. Therefore, those with substantial savings might successfully resist efforts to induce a reduction in their outlays for consumers' goods. Secondly, a fiscal policy of sufficient severity fully to

eliminate the inflationary gap seems, from recent world experience, politically unfeasible. Even in Germany, the consumers' position has been characterized by cash surpluses. Third, there remain, even in economies where conversion to the war effort has been carried to a maximum, a number of outlets for spending which do not require limitation. Perhaps the most important of these (assuming adequate limitation on new borrowing) is the liquidation of debt. To a considerable extent outlays on health, insurance, education, and entertainment fall in the same class. And, of course, there are no immediate reasons for discouraging the flow of income into cash hoards or War Bonds. It is, presumably, some combination of these factors which has restrained the Treasury's hand.

In the light of its day-to-day problems the ideal position for the Treasury would be one where consumers' expenditures were almost universally rationed and where the voluntary purchase of War Bonds was virtually the only satisfactory remaining outlet for surplus cash. The ideal position for the OPA would be one where the Treasury was limiting incomes to the value of available consumers' goods plus voluntary "harmless" expenditure.

Schemes for over-all rationing, in fact, emerge as a continuum, stretching from orthodox fiscal policy at one end of the scale to complete and direct allocations of particular resources and finished commodities, at the other.

Realistic controversy, on a middle ground, now centers on the relative advantages of rationing over-all expenditure, as opposed to rationing commodities by a point system. Both methods would permit wide areas of consumers' choice, within the limits of rationing in particular markets; but the point system, as usually presented, would involve a less thoroughgoing leveling of real income. All persons might, for example, spend an equal number of points on clothing; but those with larger incomes, spending more money along with their points, would get clothing of better quality. A point system of this type might well cause a diversion of resources into higher quality products, of greater profitability, at the expense of items of mass consumption. This is, however, a general characteristic of any system that permits unequal money incomes to express themselves in the market for consumption goods and, short of income rationing on an egalitarian basis, or total rationing of consumers' goods, it will tend to persist.

XI. Can the Freeze Hold?

The price freeze order was precipitated by a situation where a decreasing supply of consumers' goods, in the face of rising money in-

comes, caused a rapid increase in prices. In itself, the freeze order neither decreased money incomes nor increased the supply of consumers' goods. It was, essentially, the statement of a policy and of a purpose: "We shall distribute our resources and our consumers' goods, in the course of this war, within the framework of a clearly defined maximum price level." The steps necessary to implement this purpose—in rationing, subsidies, and in wage and fiscal policy—are being or must still be taken.

If no such complementary steps were taken, if the freeze operated without support, it would be violated in at least three ways. Without a reduction or neutralization of spendable income, large-scale black markets would spring up, and inflation would continue. Without formal rationing of scarce consumers' goods, informal, and probably inequitable schemes would emerge, with the retailer as administrator. Without an adequate wage policy, legitimate claims for subsidy, due to rising variable costs, would overwhelm the administrators.

The responsibility for holding the freeze thus rests in varied hands. The OPA has, in a sense, only one direct responsibility: it must be prepared to intervene promptly in unrationed markets, where shortages have lead to black market operations or to inequitable informal rationing. Less directly, but perhaps more important, it must, in consultation with the Treasury, achieve that combination of fiscal policy and rationing that will roughly equate the current value of consumers' goods with the funds consumers can or choose to place in the retail markets.[3] Finally, the OPA has a vested interest in preventing increases in money wages, especially in those instances where the increase in costs can not manifestly be borne by the manufacturer at current prices, or where the granting of a wage increase will tend to detonate similar demands elsewhere in the economy.

Of these tasks the most important is, of course, the adequate limitation of the funds consumers bring to the markets. And as the price administrators in each market deal with the chronic pressures against the price ceilings, each holding his own particular fort, they look back over their shoulders for aid. They look, overwhelmingly, to the Treasury. That is an experience not soon to be forgotten by academic men; and in consequence it is likely that future generations of economists, unlike their predecessors, will be brought up with a sharp sense of the common forces that affect the determination of an individual price and the price level as a whole.

There is a final major lesson to be learned from the relativelv success-

[3] The necessary equation might be defined roughly as follows: The value of consumers' goods at frozen prices must equal total current income plus withdrawals from savings minus taxes, voluntary savings, and "harmless" spending.

ful experience of Canada and Britain with this range of problems. It is that, with the coöperation of the public, and of the special affected groups within it, the desired price stabilization and pattern of distribution can be achieved; and that without such coöperation, the most prescient and complete legal administration might fail. In a very limited sense Canada was fortunate in that the ruling political party was regarded as sympathetic to business interests, and the price ceiling was administered, for the most part, by business men. There was, perhaps, less *prima facie* suspicion of official motives than was present initially in this country. In this setting, and under the Canadian constitution, a highly flexible system of controls has operated, capable of rapid alteration to meet changing circumstances. The magnitude of the American problem, the relatively sharp distinction between the executive and legislative branches, and the complexity of American political life make inevitable the greater difficulties that we face. It is, however, evident that aside from the formal correctness of the quantitative and qualitative judgments made by the various administrators charged with price control, rationing, and wage and fiscal policy, the success of the program as a whole will depend heavily on the good will and self-discipline of a public on which severe and unaccustomed restraints are being imposed.

Washington, D.C.

HOW TO RATION CONSUMERS' GOODS AND CONTROL THEIR PRICES

By W. ALLEN WALLIS

I

The growing scarcity of consumers' goods makes the problem of rationing them increasingly urgent. Sugar, typewriters, bicycles, automobiles, tires, and gasoline are already subject to direct administrative rationing. Although no widespread infringement of the sugar regulations is apparent, the experience with tires and gasoline, if it should become more general, would be tragic. Even with sugar the cost of administration is not to be blinked at in a country straining every nerve toward war production.

A fundamental difficulty with administrative rationing is that equal allotments do not result in equal treatment or equal sacrifice. This has been recognized for tires and gasoline, and varying quantities have been allowed different classes of consumers. But no administrative board can appraise the merits of claims for allotments above the minimum, nor can it control the disposition of the commodity once allotted. Perhaps it can determine that a gasoline user's work is important for defense and that no public conveyance is available; it cannot judge whether he could shift his residence, change jobs, ride with a neighbor. And most of its problems are far more complicated than this one. For success a rationing board requires a nearly unanimous feeling by the general public that rationing is necessary, that the board's methods are proper, and that its administration is competent, uniform and impartial.

In our economy goods have normally been apportioned through the price mechanism. The commodity goes to those who want it badly enough to pay the price, this being dependent upon need or taste for the commodity, upon the acceptability of substitutes, and especially upon incomes. The income element in determining the distribution of goods and services is always a source of social concern. This concern occasionally results in direct allocation of goods and services outside the price system, notably free education and medical facilities, and more often it leads to efforts to redistribute income, notably through progressive income, gift, and inheritance taxes.

In wartime the rôle of income in rationing through the price mechanism becomes crucial, whether the peacetime distribution of income

be regarded as admirable or abominable, for the wartime lowering of total consumption would push considerable fractions of the population below the subsistence level if peacetime differentials in living standards were maintained. In wartime, furthermore, the amount of money which consumers have and try to spend exceeds the amount of goods and services for sale. The excess, or "inflationary gap," causes a general rise in the level of prices, which may become a serious impediment to economic mobilization, by retarding the shift of resources, discouraging saving, encouraging hoarding of goods, and erratically shifting the burden of the war. To rely on the normal operation of the price system during the war thus would cause great inequities in consumption and serious obstruction of the war effort, and this in ways that would cumulate, weakening morale, encouraging further injustices in the distribution of goods, aggravating the inflationary movement.

Measures to restrict these disruptive tendencies so far adopted fall into two general categories: (1) over-all measures to reduce the inflationary gap, such as increased taxation, restriction of consumer credit, and government borrowing from consumers; and (2) specific controls, such as price ceilings and rationing coupons. The second kind of measure cannot control inflation; indeed, it was clearly recognized in the statement accompanying the Price Ceiling Order of April 28, 1942, that measures of the first category are essential for that. But the over-all measures are unwieldy, slow in their effects, and not sufficiently flexible to keep up with rapid and unforeseeable alterations in the magnitude of the inflationary gap—though they can doubtless be improved in detail, as for example by withholding income at its sources instead of waiting, as now, from two-and-a-half to twenty-three months to complete collection of income taxes. The specific controls embodied in the Price Ceiling Order and accompanying rationing devices, while they might alleviate gross inequalities if they functioned smoothly, actually cause great waste of whatever consumers' goods are available; in addition, the huge cost of administering them reduces the amount of consumers' and of war goods available. The waste of goods which they cause can be discussed best in relation to a constructive proposal.

The proposal set forth here is an amalgam of over-all measures and specific controls. It would effect the optimum allocation of scarce goods among consumers with infinitely less cost, friction and waste, and with far greater simplicity and flexibility than other methods. At the same time it would prevent inflation and facilitate economic mobilization.

II

Let us approach the general plan by steps. First, consider the problem of rationing meat. Beef yields various cuts in proportions which are

not easily altered. With consumer income rising and its usual outlets in durable goods closed, nearly everyone will try to buy the best cuts. Because of the price ceiling, the price cannot rise above its highest point in March, and at that price the demand will exceed the supply. Perhaps butchers will favor special customers, or perhaps a first-come, first-served policy will prevail. Either will cause considerable injustices and grumbling, all the more because those engaged in war work are likely to be too busy to shop early and wait in line, or are apt to have moved recently and so not to have established claims to a butcher's favor. As in the case of sugar, administrative rationing will become necessary. But it would be preposterous to assign to each person so many ounces per week of sirloin steak, so many of porterhouse, so many of top round, so many of bottom round, so many of rib roast, etc.

A far more intelligent policy is that of the English, who limit each person to a certain value of meat per week. Those who prefer quality to quantity can exercise their preference, as can those who prefer quantity to quality. Suppose the prices of different cuts are left to demand and supply, subject to the important restriction that each person's total demand is limited to, say, 75 cents per week. Then, if there is a general preference for quality, the prices of better cuts will rise enormously *and* the prices of poorer cuts will fall correspondingly. For, if everyone tried to spend most of his 75 cents on good cuts, their price would have to rise since their quantity is fixed; but no one would have much money left to offer for poor cuts and their prices would have to fall to dispose of them. As the differential increased a growing number of persons would be repelled by the rising price of good cuts and attracted by the falling price of inferior cuts. Finally, those who cared so much for quality that they were willing to restrict themselves to minute quantities of meat would get the good cuts; but as a penalty they would have released the great bulk of the meat to others. Those who decided to forego the quality cuts would be rewarded by more than proportionate shares of the quantity.

Suppose, on the other hand, a general preference for quantity and indifference to quality. Then everyone would try to buy the cheap cuts, consequently having little money left to spend on good cuts. The result would be to push the price of inferior cuts up and of superior cuts down, until the differential became very narrow; and meat would be divided almost equally on a poundage basis.

In either case, there would be real equality in the degree to which each person's needs and tastes were satisfied by the quantity and quality of his meat. Equality of sacrifice must take account of quantity and quality, and of the fact that the amount of sacrifice entailed by curtailing either is a subjective matter varying from individual to individual.

This is taken into account by restricting each person's total expenditure on meat, which in turn makes it possible to leave the prices of different cuts free to indicate the relative scarcity and desirability of the various cuts. The relative prices of different cuts might change freely, but no increase in the level of meat prices in general could occur, because the total amount of money spendable on meat would be fixed. If the amount of meat available were to increase or decrease, the allowable expenditure on meat would be increased or decreased by the same amount.

Now, there is no point in confining the merits of this system to meat. Much better results will be secured by extending it to all food, by limiting total weekly expenditures on food to, say, $3.00 per person. Those who greatly prefer meat to any other food then can expand their expenditures on meat beyond 75 cents. If they do, they will have less to spend on other foods, and those who give up meat in the face of the price rise caused by the meat-eaters will be rewarded by being able to buy more than their proportionate share of, perhaps, vegetables. The prospect of this greater amount of vegetables induces those who have no great craving for meat to leave the meat for the meat-lovers, and the rising price of meat reinforces this inducement.

Still more generally, the scheme should be extended to all consumption goods and services. Then those who are easily satisfied with little food—that is, with either small quantity or low quality—have an inducement to forego food and take their consumption in forms less desired by their more ravenous countrymen. There could be no inequality in total consumption: inequalities in consumption of different commodities would balance out for each individual, just as inequalities in quantity would be balanced by inequalities in the reverse direction in quality. The measurement of consumption would be in value terms, and value would reflect the relative scarcity of each good in combination with its relative desiredness by all consumers as a group. There could be no rise in the price *level,* of course, for the aggregate of the consumption allotments would equal the aggregate of the consumption goods and services available. Shifts in *relative* prices are highly desirable, for they give each consumer the data for balancing his wants against the wants of others, taking into account the relative scarcities of various goods; and they provide a powerful incentive for him to do the balancing in such a way that he consumes as little as possible of things that are scarcest or most desired by others.

Another important feature is that this system would not tie up any considerable amount of resources in its administration, and that it relies on control mechanisms which are already established and functioning in our economy, merely governing their action instead of replacing them entirely. To put the point in more general terms, the necessary wartime

control is achieved, not by putting an enormous staff to work participating directly in the millions of economic decisions and actions that occur daily, but by setting up a general economic environment in which each individual in every transaction has a simple measure (price) of how important each commodity is to the nation and at the same time has an almost compulsory incentive (the necessity of getting the most for his limited funds) to discover how he can best adjust to the national emergency—in whatever the degree of his patriotism.

Finally, it should be observed that shifts in relative prices can serve to shift the amounts of different commodities available. Sugar and coffee, for example, compete for whatever shipping space is allotted to such things. Should consumers, under their curtailed level of living, desire to increase the ratio of sugar to coffee this would be reflected by a much greater rise in the price of sugar than in the price of coffee (or perhaps a greater decrease in the price of coffee than in the price of sugar, if consumers were cutting down on both more than on other things). This change in relative prices would indicate that consumers would be better satisfied if some of the shipping space being used for coffee were transferred to sugar. Whether the transfer could actually be effected would depend upon a host of matters connected with importing, but at least the possibility of decreasing consumer sacrifice with no increase in shipping would be definitely known.

III

A uniform total-expenditure ration is, however, more drastic than is required in this country, at least in the immediate future. The degree to which it would equalize consumption exceeds by far what is necessitated by war conditions, and a sudden equalization of consumption would produce serious secondary shocks, both economic and psychological. Those who exert the greatest efforts during the war have, furthermore, a prior claim on current consumption (as well as on future consumption). Some flexibility in the maximum total consumption is desirable also to provide for extreme cases, whether arising from emergencies or peculiar needs and tastes. But administrative boards for these purposes would be dangerous: with the best of intentions and abilities equity would be impossible, and the mere suspicion of favoritism or of unevenness from time to time or place to place would be fatal. The amount of the total-expenditure ration should be fixed differently, however, for different ages, family compositions, etc., on a uniform basis, just as are personal exemptions for the income tax.

Flexibility in the total-expenditure ration can be introduced if, instead of prohibiting expenditures in excess of the total ration, a tax is levied on excess expenditures at a steeply progressive rate. A family of

four, for example, might be allowed a basic total expenditure ration of \$2,000 per year. (The figures used here, as in the foregoing examples of meat and food, are purely illustrative and do not reflect even guesses as to practical figures.) Any expenditures beyond \$2,000 would be subject to a 10 per cent tax, expenditures beyond \$2,500 to a tax of 15 per cent in addition to the 10 per cent, expenditures beyond \$3,000 to an additional 20 per cent tax, etc. Thus, it would be possible to consume more than the basic ration if current income were high, which by-and-large would be when individuals or their properties were engaged in war activities. As a matter of fact, as we shall see later, the present proposal itself would make it more true than it now is that high incomes correspond with intensive war work. But because of the tax, expansion of current consumption would entail a disproportionate and rapidly mounting contraction of post-war consumption; that is, the tax would cut heavily into savings which could be spent, free of the tax, after the war.

The problem of administering this plan for rationing consumer goods and controlling their prices reduces to the problem of administering the progressive consumption tax. To require individual accounting for consumption expenditures would not be feasible. It could be presumed that all income not saved is subject to the consumption tax.

The present income tax laws already provide for reports on income. No evidence of saving should be recognized, except government bonds. Thus, the government would minimize the problem of regulating all the diverse forms in which savings occur, and would be better able to control investment during the war. Altogether, the consumption tax might not increase appreciably the administrative burden of the Treasury—and certainly would not add to its burden in anything like the amount by which present and prospective Office of Price Administration operations would be eliminated.

Each individual, then, would file a federal income tax return in the usual way. To it would be appended a calculation of his consumption tax, consisting of four steps: (1) any adjustments necessary to bring his total net income figure into line with an income definition more appropriate to the consumption tax than are the income tax definitions; (2) deduction of the part of this income used for purchasing United States government bonds; (3) deduction of the basic expenditure ration, and of amounts used for any purposes specially exempted from the consumption tax; (4) computation of the tax on the balance obtained in the third step. Measures to speed collection, incidentally, would be as desirable in the case of the consumption tax as in the case of the income tax, and at least as feasible.

Perhaps the most difficult question in administration would concern liquidation of assets. In so far as assets, whether securities or such con-

sumers' goods as tires and toasters, were paid for by other consumers out of their current income, no harm would result, for no upward pressure on the price level would be exerted. It would be necessary to guard against liquidation by sale or mortgage to businesses, banks, or in general out of any funds not subject to the consumption tax. Without working out here all the details which would be necessary to implement the plan, it may be asserted confidently that a little legal, accounting, and administrative ingenuity can minimize the difficulties and the possibilities of evasion. In one respect at least, evasion of the consumption tax would be more difficult than evasion of the income tax: one's neighbors do not know either one's actual or reported income, but the only object of evading the consumption tax, increasing current consumption, would tend to make one conspicuous in a war community.

It is much easier to estimate the volume of production of consumers' goods and services, all that would be required for determining the basic or tax-free expenditure ration, than it is to estimate the inflationary gap. The only adjustment would be to allow for spending above the basic ration in the face of the tax. This could not be of great importance, because the number of people having sufficient incomes to spend much above the basic ration would be very small if the tax were sufficiently progressive, and most of them would be deterred by the tax.

The consumption levy is not a tax in the usual sense. It is a transitionary device for reducing and equalizing consumption to the degree that may become necessary during the war. The income tax, because it affects consumption only indirectly, is not sufficiently flexible to do this efficiently, especially without impairing the power of differential earnings to transfer resources into war activities. The consumption tax, however, cannot be relied upon for revenue—indeed, the better it fulfills its function, the less tax revenue it yields—so it would not diminish the necessity of income taxation. Sales of government bonds induced by the consumption tax, together with the income tax, would guarantee adequate government finances during the war. But if the bond sales were to carry the principal burden, the structure of the government debt might create post-war problems of income distribution. The inequalities of consumption that were suppressed during the war would cumulate, to be released with exaggerated force after the war. If excessive concentration of government bond holdings is limited by proper use of the income tax, the funds saved to avoid the consumption tax could constitute a powerful aid to post-war economic adjustment.

IV

Having arrived at a basic total-expenditure ration and steeply progressive consumption taxes, let us for a moment forget the route by which we traveled and survey an alternative path which sets out to levy

a progressive sales tax—that is, to charge higher prices to high-level consumers. The scheme set forth above accomplishes this neatly.

Consider, for example, three purchasers of the three tires remaining on a car that has worn through its other two. Let us suppose that A, B, and C are each entitled to a basic total-expenditure ration of $2,000 per year, and that supply and demand, as controlled by total-expenditure rationing, have set a valuation of $25 on each tire. A, B, and C each purchases one to round out his own set of three remaining tires.

Before considering the situation described, let us digress to note that this situation implies that the seller has decided the things he can buy with $75, plus what he can get for his car, are more desirable to him than the services of the car, especially in view of the high costs of operating it. The reason he can get so much money for his tires and car and so many other things with the money is that people like A, B, and C, who need cars—or think they need cars, and what man can distinguish between "real" and "illusory" needs?—are spending so much on car operation that they have been forced by the ceiling on total expenditures to withdraw from the markets for other things, thus letting down the prices of other things and attracting our tire-seller into the vacuum they have left.

Returning to the purchasers: The apparent price of a tire to each buyer is the $25 the seller receives from each. If A's total expenditures are under $2,000, $25 is the real price to him. But to B, who is spending between $2,000 and $2,500, the real price is raised by the tax he must pay, say 10 per cent, to $27.50. And to C, spending $3,100, the price is raised by the tax, say (using the arbitrary figures set down earlier) 10 per cent + 15 per cent + 20 per cent = 45 per cent, to $36.25. The reason D, whose total expenditures are a trifle over $10,000, is not in the market for a tire is that it would cost him, with tax, $237.50 (projecting the figures used earlier, which rise by 5 per cent for each $500 of expenditure).

The reason for charging higher prices to higher income groups is, of course, that they require a greater stimulus to curtail consumption, since they have the possibility of simply reducing saving. It is to be recalled that if they refrain from consuming now, they can get full value in goods after the war when consumption rationing is halted, and this possibility reinforces the stimulus to minimize current consumption.

There would be little danger from purchases by those for whom the tax is low in behalf of those for whom it is high. Such a transaction would be an effective evasion only if it were based on a promise by the high-level consumer to repay after removal of the consumption tax. The actual purchaser would have to forego current consumption equal to the price of the commodity to him, and in return he would receive

an illegal credit instrument of indefinite maturity. People who can rely on one another to fulfill obligations of that nature are likely to be of more or less similar social and economic status, hence affected approximately alike by the tax; and the integrity required will not often accompany sly circumvention of emergency war measures that are obviously uniform and objective in their incidence. But the most effective obstacle to arbitrage is that the person who extended credit would have to do so out of his own total-expenditure ration and income; and, if his expenditures were low enough to make his tax low, he could not extend much credit—because he would have to cut into his own consumption, or else he would incur taxes curtailing his income and hence his power to extend credit.

V

In evaluating a proposal of this kind it is essential to consider not only its primary effects but its secondary repercussions. In considering these, however, it is important to distinguish between consequences that are fundamental characteristics of the war situation and its attendant hardships and consequences not inherent in the war situation but only in the particular plan of meeting it. The object of any plan is, of course, to smooth the course and spread the impact of consequences of the first kind, with a minimum of undesirable consequences of the second kind.

As an extreme example of the secondary repercussions of the plan, imagine its effects on a luxurious summer hotel so located as to be of little potential use to the military forces even as a convalescent home. Perhaps it had been patronized exclusively by persons with incomes in excess of $10,000 per year. If its nominal rates were $20 per day, extrapolation of the illustrative progressive consumption tax figures used before would raise the minimum effective price to the patrons to $190 per day. The management would be faced with the necessity of lowering its rates to serve lower income groups. To curtail costs it would have to reduce the size and quality of its staff and of the articles furnished. The staff, in order to continue receiving incomes, would be forced to look for other jobs, and the place to look would be in war work. Indeed, the management might well decide to liquidate its mobile assets, selling plumbing, hardware, rugs, vacuum cleaners, dishes, tableware, linen, furniture, and its whole inventory of things no longer being produced but badly needed because of population shifts under the war program.

In effect the hotel staff would have received notice that its former services were not contributing as much to a nation at war as they had to a nation at peace. It would have a full range of accurate information as to how it best could contribute to the war: if its assets were mobile (the cost of removal and shipment would indicate how mobile they were from a national point of view) and were scarce and urgently

needed elsewhere (the prices being offered by consumers out of their total-expenditure rations would show how badly they were wanted in relation to their scarcity), it would have a strong incentive to dismantle; but if the losses entailed in this were greater than those of continuing to operate at low rates it would have evidence that it services are more useful (less useless!) as it is. The owners and employees would find themselves in unfortunate circumstances, like those already confronting automobile dealers and operators of tourist cabins; but their burden would be an unavoidable result of the fact that their services did not contribute materially to the war effort, and it would be alleviated by the opportunity, through the freedom of the prices of their assets, to recover some of their losses.

This example is perhaps an extreme one. It has been chosen deliberately to show the worst possible secondary repercussions and indicate that even in such circumstances the proposed plan may alleviate an unavoidable hardship and expedite adjustment to the requirements of the war economy: the hotel management being under compulsion (financial) to apply all its ingenuity to discovering uses for its assets.

VI

The program should be put into operation without delay. If it is put into effect now, it will not have to set the initial total-expenditure ration extremely low and the progressive features need not be severe, because the volume of available consumers' goods and services has not yet declined markedly. As the decline proceeds, people will be able to organize orderly retreats from their peacetime standards of living, and shifts in relative prices will be sufficiently gradual to facilitate readjustment of the economy to the new structure of demands. The longer the economic changes due to the war are forced to operate under a system of fixed individual prices, the greater will be the maladjustments; and the larger will be the amount of direct governmental participation in the detailed decisions of individuals that will be necessary for the functioning of the economy under any scheme.

It may seem that, even with the plan in effect, one or two items might become so extremely scarce that even if divided equally there would be barely enough to go around, and that administrative rationing would therefore become necessary for such items. Despite the plausibility of this reasoning, it is fundamentally fallacious. Such extreme scarcity cannot exist apart from a general scarcity, because goods are substitutable both in consumption and production. On the consumption side, there is no single good nor any small group of goods that cannot be replaced more or less satisfactorily by other goods. On the production

side, a desired result can be achieved in a variety of ways, and any particular resource has innumerable potential uses.

All these possibilities of substitution quickly convert what would otherwise be an acute specific shortage into a mild general shortage. A shortage of tires, for example, becomes a lack of truck-hauled vegetables, and this leads to greater demands for rail-hauled vegetables, thereby slightly increasing the scarcity of refrigerator cars; it becomes a lack of access to factories, which leads to housing construction near the factories, hence increases the scarcity of building materials; it becomes a lack of urban transportation, which leads to increased use of trolleys and subways, hence to increased demands on electric generators, and so to scarcity of illumination. Every specific scarcity becomes an indistinguishable part of the general scarcity. As the general scarcity accumulates, total-expenditure rationing must become increasingly strict. Lower basic rations and more steeply progressive consumption taxes must come into force, for this is the best means of minimizing the hardships from the general scarcity and of distributing them equally.

Undoubtedly a large number of exemptions from the total-expenditure ration will be proposed. Very few if any of these will bear analysis, though many seem acceptable at first. To establish any exception would be a dangerous precedent. To exempt medical expenses, for example, would benefit only the upper-income groups, since in general the lower-income brackets do not have the money to try to spend even in emergency, but must rely on social facilities. Those whose expenditures are high enough to subject them to a high consumption tax would be those whose standard of living was enough above the general average for them to make the unpleasant adjustments that the vast majority of the population must make even in peace when medical expenses are incurred; otherwise, they could resort to facilities available to families unable to assume the full cost of medical care. Exempting one item would greatly encourage its utilization by the upper-income groups. Medical facilities in wartime are extremely overburdened and their use has to be curtailed below an "adequate" level simply because there is not an adequate amount in existence.

A general class of exceptions probably will be put forward with the object of "directing consumption to those items which do not use up war materials." The fact that this can be accomplished most effectively by fixing the general price level in such a way as to leave *relative* prices free to reflect scarcities and wants is, however, one of the most cogent arguments for the proposed plan. Furthermore, there is nothing to be gained by encouraging the consumption of such goods except in so far as they can replace goods using war resources; so the better able such

goods are to satisfy consumer needs the smaller should be the consumer's remaining claim on other goods.

There is perhaps a case for exempting payments on debts contracted prior to adoption of the plan. Insurance payments pose a problem, but not an insuperable one. In so far as they represent pure insurance they are transfers from one consumer to another, hence the premiums should be exempt but the benefits taxed if the beneficiary spends them; in so far as they represent service fees they are consumption, so should be subject to the tax; and in so far as they represent savings they should come under government control. A possible device, which could be extended also to other savings institutions, would be for the insurance companies to buy government bonds to which were attached coupons that could be distributed to policy holders for use as evidence of savings when computing the consumption tax.

On the income side of the picture, it would be desirable but impractical to include the income-value of durable goods. Perhaps in the case of houses, the rental value of owned homes might feasibly be added to income and expenditure. In so far as the amount of other durable goods owned tends to be correlated with income, the progressive features of the tax schedule would compensate for them.

VII

A system of total-expenditure rationing, coupled with a steeply progressive tax on all expenditures in excess of the basic ration, would be enormously superior to the devices now being inaugurated, because it would (1) effectively prevent inflation; (2) achieve the fairest and least wasteful distribution of consumers' goods; (3) be administratively simple and flexible; (4) avoid the disruptive consequences of (a) suspicion of favoritism or incompetence, actual or illusory, by administrative boards, (b) widespread disregard of law, (c) extensive policing investigations and control of private affairs, (d) elaborate red-tape, delay, and frustration in economic matters, (e) concentration of individual efforts on persuading or educating administrators instead of on solving difficulties, and (f) extensive diversion of resources to nonproductive, regulatory functions.

The proposed tax is essentially a progressive sales tax. As such, it bridges the gulf between the advocates of a sales tax, who rightly emphasize the desirability of discouraging consumption by direct taxation and the difficulties of relying exclusively on income taxation; and the advocates of exclusive reliance on income taxes, who rightly emphasize the desirability of progression and the regressive incidence of uniform sales taxation.

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GENERAL EXPENDITURE RATIONING WITH PARTICULAR REFERENCE TO THE KALECKI PLAN

By Ralph E. Holben

Introduction

Rationing is a logical concomitant of any policy designed to control retail prices, since it is the only way in which the discrepancy between mounting consumers' demand and limited supply can effectively and equitably be handled. To fix prices at the retail level without a general plan for rationing would result in an informal sort of rationing by the seller wherein any prejudice or preference he may have could exert an undesirable influence; *ipso facto* rationing is a prerequisite to any program which would distribute limited supplies equitably to the consuming public.

Since the fundamental theory of rationing is to equate demand and supply and thereby perform (in a limited sense) the function of the price mechanism, any plan of rationing must seek to regulate the flow of rationed commodities from the manufacturer to the retailer as well as the ultimate sale to the consumer. Once it is decided some form of rationing is necessary, *pari passu* it follows that a complete program coördinating output and consumption must be adopted. Specific rationing, such as point rationing, if effectively administered, can equate demand and supply and distribute limited supplies equitably among the consuming public. Specific rationing has the virtue of being able to meet particular problems of economic maladjustment as they arise. General expenditure rationing, while it will bring about a state of stability in the general price level, will create innumerable problems of disequilibrium in the case of particular commodities, the impact of which would tend to disrupt the entire economy for some period of time.

As this discussion is developed, it will be shown that, though Mr. Kalecki fully appreciates the theoretical necessity of a program of rationing, his plan for carrying out such a program is both theoretically invalid and practically quite unworkable.

This paper will demonstrate that the general principle of expenditure rationing is quite incompatible with the present program for price control in the United States.

Kalecki's General Approach to Rationing

In essence, Mr. Kalecki's plan amounts to a general limitation of the amount of funds which may be expended on commodities purchased in retail shops.[1] He thereby hopes to curtail total consumption for such commodities so that demand for them will not exceed supply; any inflationary tendency which might exist in such retail prices should, thereby, disappear. It is important to realize, however, that the tendency for other prices to increase will not be diminished; in fact, it is most likely that many other prices will receive a tremendous inflationary impetus, because of a shift in the expenditure patterns of the higher income groups. Funds formerly spent in retail shops will flow into other channels for the purchase of real estate, for travel, or for services. Kalecki fails to recommend any plan for the specific rationing of these items, nor does he seem to realize that the rationing problem in their case will be multiplied as a result of his plan.

Mr. Kalecki rejects a plan for specific rationing on the grounds that such a plan would have to assume enormous proportions, would result in considerable inconvenience, and would be difficult to control. The recent experience of Germany and England does not prove this to be the case; at least, one might say that such problems have not proved to be insuperable, since both of these countries have been engaged in specific rationing, and no evidence has appeared to indicate a serious breakdown in their respective programs. Kalecki also suggests that specific rationing would result in the transfer of coupons from the poor to the rich so that a surplus would be distributed among the rich in a "haphazard and disorderly fashion." There may be some truth in this criticism, but it hardly represents a serious attack upon the coupon method of rationing. Since it is desirable to leave a certain element of free choice to the consumer in the distribution of his income so that he can maximize his satisfactions, there is no apparent reason why the poor should have to consume the total value of their weekly ration. In fact, many of the poor cannot afford to do so, for if they prefer to obtain a greater marginal unit of satisfaction from the sale of one of these coupons so that they can thereby purchase some other article, why should they not be able to do this? It is of course true that the random sale of such coupons among those people who can afford to consume a surplus will not afford purchase opportunities to all buyers. Since the equilibrium between demand and supply planned in accordance with the rationing scheme would not be affected, there does not seem to be any reason why the sale of unused coupons should

[1] M. Kalecki, *General Rationing*, Bull., Inst. of Stat. (Oxford, England), Vol. 3, no. 1 (Jan. 11, 1941).

not take place. It would therefore be wise for the government to buy all of such a surplus of coupons at a fixed price and resell them with a sizable margin of profit to all buyers who are able to purchase them. The resale could be based on a plan wherein a buyer would have to purchase a special permit, which would allow him a just percentage of the available surplus. Thus a special rationing plan of surplus coupons could be superimposed on the basic rationing plan. The chief advantages of government distribution of such surplus coupons lie in the revenue it will provide and in the greater equity it will impart to the distribution system.[2]

Mr. Kalecki proposes to substitute a "general rationing scheme" for specific rationing because he believes that such a plan will do away with the problem of the transfer of unused coupons and simplify administrative procedure. His plan calls for the issuance of general coupons encompassing the total expenditure allowed to an individual in retail shops. Such a general coupon book would replace the numerous specific coupon books required by specific rationing. Thus, by assumption, this limitation of expenditures will increase the desirability of consumers to purchase rationed commodities, as contrasted to any other possible use of their income, to such an extent that very few if any individuals in any income group will desire to sell a surplus of their own coupons. He proposes to fix this expenditure at 25 shillings a week for an adult and 14 shillings for a child, with a few exemptions such as services, books, and medicines. Therefore, Kalecki's scheme calls for a tremendous consumption sacrifice from the higher income categories. In addition, Kalecki proposes to prevent the transfer of coupons under this scheme by the following provision: "Apart from the absolute maximum of expenditure, a maximum percentage of income to be spent in retail shops is fixed at a level equal approximately to the upper limit of the actual percentage spent in shops by the poorer population, say 80 per cent. Coupons must then be issued for the amount corresponding to the lower of these two maxima."

The "Raison d'Etre" of the Plan

A plan of general expenditure rationing theoretically seems to possess unique advantages not characteristic of specific rationing, those of simplicity and comprehensiveness. In one fell stroke, the institution of an expenditure rationing plan would stabilize prices, provided that the scheme were effectively administered and that it could close the "gap" for any given period of time. The plan has the advantage of

[2] Equity implies in this sense equal opportunity for all buyers to share in the purchase of surplus coupons.

increasing net saving to the degree to which it limits expenditures on consumption goods; it approaches the problem directly by attacking inflation at its source through a reduction in the amount of money income available for consumption;[3] this is a virtue not possessed by Keynes's deferred payment plan whereby net saving would fail to increase to the degree to which increases in forced saving were offset by dissaving. The general expenditure rationing scheme also avoids the weakness of allowing high income earners to escape sharing in the general contraction of the consumption standard of living by means of capital consumption; this weakness must of course be associated with any plan of "deferred pay."

But the general expenditure rationing plan, though it would close the inflationary gap, has certain associated disadvantages which may well outweigh its primary attribute. The following criticisms pertain, to an equal or lesser degree, to the theory of general expenditure rationing, but they are particularly concerned with the specific proposal of Mr. Kalecki.

Objections

Let us now consider in some detail the possible objections that might be raised.

The first and probably the most serious objection to the Kalecki plan lies in its failure to cope with the problem of limiting consumers' demand to a planned allotment of supplies. A simple example will reveal this failing. If we assume that the total output of a country to be 100 units, 60 units of which will be devoted to the production of consumers' goods, there arises the problem of how to divide this 60 per cent of productive power in the production of alternative types of consumers' goods. Before the initiation of the limited expenditures plan, the plants of the manufacturers of commodities, later to be rationed, will be geared to produce in accordance with the particular demand functions (conditions) prevailing for their respective commodities. After the adoption of the Kalecki plan wherein a maximum level of expenditure in retail shops was fixed by decree, a violent change in the demand functions for the various commodities would immediately ensue as a consequence of the income use and substitution effects arising from this expenditure limitation; not only will the elasticity of the "particular" demand curves for these commodities change, but—more important—the total volume of demand for most of them will have undergone a drastic revision.[4]

[3] Savings, by definition, will be considered to be money not spent on consumption.

[4] These changes may be expressed by the following equation: Before the limitation of expenditures, $10Da + 20Db + 15Dc + \dots + NDn = X$. Da, Db, etc., = Total demand for

For example, after the limitation of expenditures has been instituted, higher income group consumers will purchase much smaller amounts of consumers' durable goods, of which they already have considerable supplies, and concentrate their purchases on perishable products. The degree to which this shift will occur would of course be beyond the powers of anticipation of any business man; not only would this be true, but even were he able accurately to predict his future demand, time would forbid his making adequate adjustments to meet the situation. The result of this situation will be that producers and retailers of consumers' durables will have excessive supplies that cannot be sold at cost price, while dealers in perishable necessities will be unable to supply the new demand. Consequently, not only does a severe price problem arise, but an enormous amount of waste is entailed.

The end result of this process will be that not only will existing supplies in the form of accumulated retailers' inventories be maladjusted to the new direction of consumers' demand, but existing productive facilities will not be adapted to the new pattern of demand. The full significance of the unfortunate economic consequences of this plan are now apparent. Not only does a new plant conversion problem result, but existing supplies are not equated to the new demand pattern. Thus a new problem in the rearrangement of price ceilings will arise. Yet, this is not the final consequence; for, as industry tries to readjust its plan to what it anticipates to be the new pattern of demand, demand functions may again change due to the unpredictable effect of this unique situation (the limitation of aggregate expenditure) upon the consumers' desires. Thus one must conclude that not only will an equilibrium of demand and supply be nonexistent after the instigation of such a plan, but the reëstablishment of such an equilibrium will be difficult over an extended period of time.

Second, although the general level of prices could be stabilized under general expenditure rationing, the preëxisting price structure would undergo a tremendous alteration under the influence of changing demand functions; the preëxisting equilibrium relationship of individual prices would be completely upset. Such a disturbance of the integration of the price structure would render impossible the maintenance of the general freeze of retail prices as of March, 1942. The present policy of the Office of Price Administration concerning a general freeze of retail prices, if not rendered superfluous by such a plan,

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specific commodities, NDn = total demand for all other commodities, X = total demand for all commodities. After limitation of expenditures, the demand equation might become, for example, $15Da + 6Db + 21Dc + \dots + NDn = X$.

would at least have to be postponed until such a time as a new equilibrium in the relationship of individual prices had again been attained. This criticism, of course, is directed toward the practicality of using such a plan in this country at the present time in view of prevalent policy rather than toward the value of the plan in itself. The extension of specific rationing in accordance with the development of shortages for specific commodities is the logical concomitant to the present policy of stabilizing the general price level.

To be more specific on this point, after the institution of general expenditure rationing, the prices of most individual commodities would tend to move above or below that equilibrium level which they had attained prior to the institution of the plan. Therefore, the attempt to use general expenditure rationing in conjunction with the present price freeze would mean that those prices which should rise in accordance with an increase in demand could not rise; it would be impossible, therefore, for output automatically to be adjusted to changes in demand via the medium of price changes. Thus, it would be impossible to retain the price ceiling at the same time that one introduced expenditure rationing without completely destroying the allocative function of the price mechanism. The disruption to output and the smooth functioning of the productive mechanism would, therefore, indicate general rationing to be quite incompatible now with the general freeze.

The third objection relates to the stupidity of utilizing such a scheme as Kalecki suggests at the present time in the United States. While rationing may soon become a necessity in the case of many commodities, there are numerous commodities sold at retail, the existing supplies of which are plentiful and the future supplies of which should not be greatly reduced, which need not be rationed. The introduction of Kalecki's maximum expenditure plan might mean that many of these commodities could not be sold at cost price, because of the substitution and income effects arising from such a limitation. This would give rise to an unnecessary burden to retail dealers.[5]

An unfortunate repercussion of this situation would be its disastrous effect upon civilian morale, when consumers realize that there are numerous commodities available for consumption which cannot be consumed because of the limitation of total expenditure. A similar effect would manifest itself among producers of commodities for civilian consumption and retailers who endure unnecessary costs of conversion and excessive supply.

Fourth, the extreme limitation imposed under Mr. Kalecki's plan

[5] The latest available statistics reveal a significant increase in retail inventory accumulation during the past year. See F. C. Murphy and L. J. Paradiso, "Business Inventories in the War Period," *Survey of Current Bus.*, June, 1942, pp. 6-26. Note especially Table 2, p. 7.

on the expenditure in retail stores would drastically reduce the standard of living of higher income earners to such an extent as seriously to impair their morale and productive efficiency. Perhaps the higher income earners should be classified as those who earn an income in excess of $2,000 a year since less than 35 per cent of the population is included in this classification. For purposes of illustration, however, I will take that category of persons whose income is in excess of $5,000 and who comprise but 5 per cent of all families and individuals. The aggregate consumption expenditure of this group amounts to $12,295,000,000, and there are 2,153,000 individuals in this group so that the average annual expenditure on the main categories of consumption for these individuals amounts to approximately $5,711.[6] This amounts to an average expenditure of $110 a week. After taking account of expenditures which are not made in retail stores, it would still be true that approximately $60 a week is spent in retail stores by the average individual in this group. Mr. Kalecki would limit his expenditure to 25 shillings or about $5.00. It should now be plain why a limitation even remotely approximating that which Kalecki suggested for England would result in a drastic reduction of the standard of living of the higher income category in the United States. Even after making allowances for a generally higher standard of living in the United States and a greater burden of taxation in England, Kalecki's scheme would call for a limitation of expenditures in the United States to about $9.00 a week. This amounts to an 85 per cent reduction in consumption to the higher income classes.

Therefore, Kalecki's scheme results in such a drastic reduction of consumption income to the higher income groups and stabilizes the level of consumable income at such a low level as to raise grave suspicion that individual productive efficiency would be reduced. The wiping out of income differentials in this fashion has never been successfully utilized by any modern economy in peacetime or wartime.

Conclusion

My attack on Kalecki's plan for general rationing can be summarized as follows: (1) because it would offer no means for industry to foresee necessary adjustments in plant capacity, since it would create a tremendous conversion problem, it is, therefore, economically inefficient; (2) it is incompatible with the policy of a "general price freeze" because it would upset price equilibrium and destroy the allocative function of the price mechanism; (3) it is especially ill

[6] *Revenue Revision of 1942,* Hearings Before the Committee on Ways and Means, House of Representatives. (Rev.) Vol. I, Mar., 1942, Table 3, p. 364; Table 8b, p. 373.

adapted to the present stage of war industrial development in the United States, because it would result in the creation of large supplies of nonconsumable retail goods and thus would be destructive of morale; (4) Kalecki's plan results in such a severe leveling of income differentials, in so far as a very considerable restriction in the use of income is involved, that the productive efficiency of higher paid workers might be severely reduced.

If, instead of establishing an absolute level of expenditure for all individuals, different individuals were allowed varying expenditure rations in accordance with the level of their income (people with larger incomes being allowed a smaller percentage of their income for consumption than those with relatively small incomes), then my fourth objection to the Kalecki plan would be eliminated. The purpose of expenditure rationing could as adequately be accomplished by allowing differentials in the absolute amounts of income permitted for expenditure as by fixing one absolute level of expenditure. The other objections, however, would still apply to this variation on the Kalecki plan.

Specific Rationing

The general expansion in the use of specific rationing in conjunction with more intensive taxation and public saving appears to be the most satisfactory method of controlling inflation in this country at the present time. The extensive application of specific rationing to commodities (especially necessities) where shortages exist will accomplish the following objectives:

1. Assure the equitable distribution of limited supplies to the consuming public;
2. Relieve pressures endangering the maintenance of price ceilings as such pressures arise; and
3. Encourage voluntary saving as the possible uses of surplus money income become increasingly limited.

Specific rationing involves none of the accompanying defects such as have been attributed to general expenditures rationing because:

1. Through specific rationing it is possible to plan for the future the amount of any particular commodity which the civilian population will be allowed to consume. Since producers will know in advance how much of any particular commodity they may produce for civilian consumption, and since they also know that under wartime conditions there rarely will be any difficulty in selling the total supply of such goods,[7] the problem of adjusting output to unpre-

[7] The implicit assumption is made that money income held for purposes of consumption exceeds the value of available consumers' goods at current prices.

dictable demand conditions, a phenomenon typical of general expenditures rationing, would not exist. Thus specific rationing, by allowing producers and distributors to have precise knowledge concerning output functions and demand conditions, will result in a maximum of efficiency in the conversion of plant facilities to the demands of a war economy.

2. Specific rationing would in no way interfere with the maintenance of a general price ceiling; in reality, specific rationing would be an excellent instrument for the relief of the pressure of demand on particular price ceilings when such pressure becomes intense.

3. Specific rationing would avoid the paradox of "scarcity amidst plenty" which has been pointed out as a fundamental defect of general expenditures rationing. Under specific rationing there would be little danger that supplies of consumable goods would accumulate in stores as unconsumable stocks, since it is possible to plan to ration the total of existing stocks equitably to the consuming public. Specific rationing also implies that goods will be rationed only when shortages create a real need; it can then assure consumers that no one need worry about getting a fair share of existing supplies.

4. Finally, specific rationing allows higher income earners to enjoy the advantages of their higher income through the unlimited purchase of those commodities (especially luxury articles) which need not be rationed. Thus, specific rationing avoids the objection peculiar to Kalecki's conception of general expenditure rationing, that of leveling the real standard of living of all income earners with respect to a large proportion of current consumption.

The object of general expenditure rationing might be attained by a program of taxation and compulsory saving sufficiently extensive to close the gap. Unfortunately both of these measures have an inherent weakness previously alluded to, that is, the possibility of dissaving by higher income earners. Widespread dissaving would not only weaken the fiscal measures designed to close the gap, but would also result in an inequitable distribution of limited supplies by allowing high income earners to maintain their real consumption standard of living through capital consumption. While general expenditure rationing would avoid this difficulty, the already discussed weaknesses inherent in the plan render it unacceptable. Finally, even granted that a program of heavy taxation and compulsory saving could close the gap and would be politically acceptable, both very dubious assumptions, such a severe limitation on the use of money income would be subject to the *first three major objections* previously directed at the general expenditure rationing scheme.

It is, therefore, necessary today to follow the best possible course of action in view of prevailing economic and social conditions. This course of action calls for the extensive use of specific rationing to rectify severe maladjustments of demand and supply as they arise in the case of particular commodities. Whereas it is desirable to reduce the size of the inflationary gap by means of fiscal measures to relieve the pressure on price ceilings from the side of demand, it is probably neither possible politically nor desirable economically to close the gap during the present transition stage in the development of a full-fledged war economy.

The most serious objection that may be raised to specific rationing accompanied by a fiscal program that would narrow the gap but fail to close it would be the inflationary pressure exerted on unrationed commodity prices. Such demand bulges, however, would endanger the ceiling prices of only the less strategic commodities and would not offer a serious threat to the stability of the general price level. It is also likely that such surplus money income available for consumption would be saved rather than be spent on unrationed goods that have a low marginal utility value to the consumer.

It should not necessarily be the object of government price policy during wartime rigidly to maintain a given price level. Moderate increases in certain prices under the pressure of demand or rising costs could be sustained by the public without serious effects. One of the primary objects of government control of prices during wartime is to prevent a serious reduction in the standard of living of those income receivers whose money income will not increase in proportion to a general inflationary increase of prices. The general application of specific rationing to all the vital constituents of the cost of living index should assure the stability of the prices of such commodities and assure the basic living standard for the consuming public. The other primary object of government price control is to prevent precipitous price increases from causing a misdirection in the flow of investment funds which might endanger the maximization of wartime productive efficiency. In wartime it is essential that new investment be confined to those industries that are essential to the war effort. Such moderate price increases as have been alluded to would be insufficient, if they occurred at all, to effect any misdirection of investment, providing the government has adequate powers to control the distribution of raw materials through quota arrangements and priority controls.

There is no utopian solution to the inflation problem created by modern warfare. The most desirable policy for handling this problem must be measured not only by the degree to which it stabilizes the price level, but also by the degree to which it facilitates a rapid and

effective conversion of American industry to a full-fledged wartime basis. Thus, the inflation problem created by modern war is not only a problem of preventing a precipitous rise in the general price level, but also a problem of adjusting the price mechanism to the demands of wartime economic conditions in such a fashion that economic efficiency is maximized both in the production of war goods and in production and utilization of the residual available for civilian consumption.

In so far as rationing can contribute to a solution of the inflation problem, so defined, our government should continue in the intelligent application of *specific rationing* rather than make a radical departure from its present anti-inflation program by adopting a plan of general expenditures rationing.

Washington, D.C.

SUBSIDIES AND PRICE CONTROL

By Raymond F. Mikesell and C. Edward Galbreath

The establishment of comprehensive programs of price control in the warring nations of the world has resulted in the widespread use of subsidies. Subsidies are being employed not simply for holding down the prices of a few cost-of-living commodities for the benefit of the lower income classes, but as an instrument of primary significance in the modern technique of price control.

The earlier sections of this article will be devoted to a discussion of the use of subsidies as a fundamental technique of price control both in this country and abroad. The final section will be concerned with the economic justification of subsidies and an analysis of the effects of subsidy payments on inflationary pressure.

British Experience

Great Britain, although not having an over-all price ceiling, has substantially abandoned the practice of adjusting prices upward with increases in costs and has adopted the policy of insulating the prices of cost-of-living commodities, particularly food and clothing, from rising costs by direct government subsidy payments.[1] The British government has been subsidizing the retail prices of basic food products since December 1939, when the policy was instituted in an effort to retard the increase in the cost of living. In January 1940, the Chancellor of the Exchequer stated, "Our policy . . . is to make public money available . . . to hold retail prices of staple foods, or at any rate, to impose delay and check the abruptness of any rise."[2] By limiting inflationary price rises, it was hoped also to facilitate wage stabilization and to sustain public morale.

This program, however, was not extensive enough to hold down the cost of living. During 1940, living costs continued to increase and by April 1941, were almost 28 per cent above the pre-war level; the food component advanced 24 per cent.[3] At that time the Chancellor

[1] Great Britain, Parliamentary Debates (House of Commons), April 7, 1941, col. 1321.

[2] Great Britain, Parliamentary Debates (House of Commons), January 31, 1940, col. 1155-6.

[3] Great Britain, Bank of England, Statistical Summary (monthly), 1940-1941. Ministry of Labour indices.

announced the government's determination "to prevent any further rise of the cost-of-living index number, apart from minor seasonal changes, above the present range of 125-130 in terms of the pre-war level."[4] An important aspect of this program to stabilize living costs is the payment of subsidies not only for foods but also for transport, wool, hides, and coal.

The British have adopted several methods of subsidizing cost-of-living commodities.[5] One procedure is to rebate customs duties, as in the case of tea. A second method consists in direct subsidy payments to producers, as in the case of the subsidy for bread and the milk subsidy early in 1940. A third technique is the purchase of a commodity and its resale at a loss. Wheat, for example, is purchased by the Ministry of Food and sold to millers at a price sufficiently below the purchase price to keep the wholesale flour price from rising. A fourth technique is illustrated by the subsidy for cheese in the earlier months of the war. The Ministry of Food at that time did not fix prices but simply purchased certain quantities of imported cheese and sold them at lower prices to keep down domestic prices. As the subsidy had to be paid on only a small part of the supply, its cost was low. As a fifth method of subsidizing cost-of-living commodities, the British have been paying part of the increased cost involved in coastwise transport of food.

By extensive use of subsidies and other price-control devices, the cost-of-living stabilization program has met with considerable success. This is evident in the report of the Chancellor of the Exchequer that the cost-of-living index number remained virtually stationary between April 1941 and April 1942.[6] Although the total cost of the subsidy program has not been published, that for food alone is running at an annual rate of £127 million.[7]

Canadian Experience

The Canadian government and the Wartime Prices and Trade Board became convinced, after a thorough consideration of all the difficulties and conditions involved and after a reëxamination of the Canadian experience with price control, that it was necessary to hold the over-all price ceiling without a break. To hold prices firmly and pay subsidies when necessary were believed to be much less costly and more equitable than to permit upward adjustments of prices as costs rise. In a speech

[4] Great Britain, Parliamentary Debates (House of Commons), April 7, 1941, col. 1321.

[5] Great Britain, *Fourth Report of the Select Committee on National Expenditure,* p. 21.

[6] Great Britain, *Parliamentary Debates* (House of Commons), April 14, 1942, col. 105.

[7] *The New York Times,* July 19, 1942, Sec. 3, p. 2.

in the House of Commons, J. L. Ilsley, Minister of Finance, contended that "Each increase in prices permitted by means of a flexible ceiling would be bound to lead directly to other movements. . . . This sort of process would gather momentum like a snowball rolling down hill."[8] He pointed out that an increase in price arising from the shortage of supplies of a particular commodity or service would prevent some people from obtaining it because they could not afford it, or would force them to do without other things. The Canadian government wished to prevent price rationing of goods and services which would allow goods to go to the highest bidders.

From the time of the institution of the over-all price-control policy, the government expected that subsidies would be necessary to hold the established ceiling.[9] It was not long before this necessity became real. The need for subsidies arose from two main causes.[10] First, some costs cannot be controlled. Import prices are determined by foreign exporters or by price-control authorities in foreign countries. Furthermore, the scarcity of shipping and the submarine menace has shut off many usual sources of supply and necessitated shifting to more expensive sources. As these cost-prices go up, it becomes less profitable to import goods or to purchase the high-cost substitutes. Second, a squeeze developed at the wholesale and retail levels because under the ceiling the prices at the different levels were not in a balanced relationship. In many cases, sales reflected prices of inventories purchased at some time previous to the base period. Between the date of purchase of the inventories and the base-period date, prices of replacements had risen.

If the ceiling prices were to be held, measures were necessary to absorb the increases in the uncontrolled costs and eliminate the squeeze. The squeeze was handled by a combination of methods.[11] The Wartime Prices and Trade Board adopted the policy of rolling back the costs from the retailer to the manufacturer. In some cases, however, the manufacturers and dealers together could not absorb all the squeeze. In such cases where supplies are regarded as essential, the government has undertaken to absorb a portion of the squeeze by means of a subsidy pending the working out of other methods to reduce costs.

The most important cases of uncontrolled costs have been in the field of imports.[12] The Wartime Prices and Trade Board expected

[8] *Subsidies and Price Control,* Excerpts from a speech by J. L. Ilsley, Minister of Finance, in the House of Commons, April 23, 1942, p. 1.

[9] *Ibid.,* p. 2.

[10] *Ibid.,* p. 4.

[11] *Ibid.,* pp. 5, 8-9.

[12] *Ibid.,* p. 4.

originally that the chief need for subsidies would be to compensate for increased import prices. It was assumed that the over-all ceiling covering prices of domestic commodities and services, as well as wages and salaries, would prevent increases in costs from those sources and eliminate the need for price increases or subsidies except in special or temporary instances. The possibility that domestic subsidies may have to be granted on a broader scale than anticipated coupled with the institution of the over-all price ceiling in the United States may mean that the problem of subsidizing domestic production will become increasingly important while the necessity of large-scale subsidies for imports will decrease.

The general principles of the Canadian subsidy may be summarized as follows:[13] (1) Subsidies are paid for the purpose of keeping down the cost of living. They are paid to producers on condition that they maintain supplies and carry out the policy of the price ceiling by supplying goods to others at ceiling prices. (2) Subsidies are paid to maintain supplies of essential commodities only. Rather than subsidize unessential or luxury goods the Canadian government is willing to permit them to disappear from the market. (3) Under no circumstance is a subsidy permitted to constitute a special benefit to the subsidized industry or business firm. In order to qualify for a subsidy, an industry is required to show that it has instituted all possible economies and that its margin of profit is no more than reasonable or necessary. The industry receiving the subsidy must bear a part of the increased costs in respect of which the subsidy is paid. (4) The reduction of costs through standardization and simplification of the product and the elimination of unnecessary frills and services are expected to remove or greatly minimize the need for domestic subsidies.

The general policy with regard to the payment of subsidies has been determined by the government on the advice of the Wartime Prices and Trade Board.[14] Basic decisions needed to apply this policy are made by the board subject to the approval of the Minister of Finance. These decisions determine whether or not a particular commodity should be subsidized and by what methods. Details of each particular case are worked out by the particular administrators of the board concerned with the commodities or trades, aided by the Commodity Prices Stabilization Corporation, the government-owned company which serves as the agent of the board for the payment of the subsidies. The corporation pays the subsidies directly to importers or others entitled thereto or subsidizes indirectly through bulk purchases of certain commodities.

[13] *Ibid.*, pp. 4-6.

[14] *Ibid.*, pp. 5-6.

Subsidies have been paid on a wide range of imports including rice, cotton, wool, hides, grapefruit juice, dried fruits, and cotton fabrics.[15] Domestic subsidies are being or have been paid on milk, canned fruits and vegetables, leather footwear and leather clothing, and a list of about forty grocery items specified in Order No. 116 of the board, dated March 23, 1942.[16] The milk subsidy, however, was only a temporary measure and was discontinued at the end of April in favor of an adjustment of prices for milk products.

The cost of the Canadian subsidy has been surprisingly small. From the date of the institution of the over-all ceiling to June 2, 1942, the total cost was about 4½ million dollars.[17]

The British and Canadian experiences, thus far, point to successful use of subsidies as an aid to wartime price control. Experience with adjusting prices upward with changes in costs led the price-control authorities of those countries to abandon that practice and adopt firm price-ceiling policies. Although the British and Canadian wartime price situations are not entirely comparable to that of the United States, subsidies have been used to meet many of the same price-control problems prevailing in this country. In two respects the Canadian situation is much different from our own as Canada has ceilings on both wages and farm prices. Consequently, the need for subsidies to meet rising wage costs and rising agricultural prices has not appeared. The British have controlled retail food prices but have had to meet the problem of higher transportation costs on shipments of food products on higher farm and imported food prices.

The Need for Subsidies in the United States

The General Maximum Price Regulation established price ceilings for the bulk of the commodities and services which consumers buy but left many of the costs of producing these commodities free to move upward. Certain prices that enter into costs are not yet under the ceiling or are not controllable under the Emergency Price Control act. The prices paid by importers for imported commodities, the prices of raw agricultural commodities and wages represent uncontrolled costs in the production of many commodities which are themselves subject to price ceilings. Even if it were possible to control all factor prices, unit costs and margins could not be held rigid. Unit costs are not only a function of factor prices but also depend upon the physical

[15] *Ibid.*, p. 10.

[16] *Ibid.*, pp. 7-8.

[17] Office of Director of Public Information, Weekly Bulletin for United States Newspapers, Vol. II, No. 22 (June 7-13, 1942), p. 2.

conditions of production and distribution. For example, cost increases may be occasioned by the necessity of producers resorting to less efficient labor and other resources; or higher transportation costs may result from a shift from ocean freight to rail transportation. Thus any attempt to maintain a rigid ceiling on prices must provide for compensating producers and distributors for increases in unabsorbable costs if output is to be maintained. Subsidies need not, of course, compensate for every increase in the cost of production of commodities under the ceiling. But when these increased costs cannot be absorbed at one or more stages of production without losses or serious profit limitations, producers and distributors will not be able to continue to perform their functions; if the output of an essential commodity is to be maintained, the only alternative to raising retail prices is to subsidize the industry.

Recent experience in the United States with maximum price ceilings has revealed five general types of subsidy cases classified according to the reason why the subsidy is required.

1. *The Unabsorbable Squeeze.* By the unabsorbable squeeze is meant a reduction in margin resulting from the lag in adjustment between buying and selling prices that cannot be absorbed at one or more levels of production or distribution. A squeeze occurs when sellers set their prices at the time of the freeze on the basis of the average cost of their inventory rather than on the basis of replacement cost when the latter is higher. The squeeze can be *rolled back* to an earlier stage of production by requiring that stage to reduce its price to a lower level. If producers' costs have not risen substantially, it may be possible to require them to absorb all or a part of the squeeze on wholesalers and retailers by means of a roll-back; if producers' costs have also increased, it will be necessary to pay them a subsidy to enable them to reduce their prices to the dealers.

2. *Higher Import Prices.* Import prices represent an important group of prices ordinarily not subject to control. Even if the control of the actual prices charged by foreign sellers could be achieved, increased shipping costs and the necessity of getting the commodity from new sources may be responsible for substantial rises in the cost of importation. Actually, increases in the prices charged by foreign sellers have been few in number since the beginning of the year.[18] The cost of imported commodities has risen largely because of the increased war risk insurance rates and ocean freight surcharges, and the additional rail transportation charges resulting from the diversion

[18] The major increases in foreign sellers' prices since January 1, 1942, have been in the prices of Chilean nitrates and Australian wool.

of cargo from east coast ports to Gulf ports.[19] A part of the increase in war risk insurance is being absorbed by the War Shipping Administration which has been granting rates substantially lower than commercial rates. To the extent that losses are incurred by the War Shipping Administration, this involves a subsidy on imports.[20]

3. *Increases in Agricultural Prices.* Probably the greatest threat to the ceilings established under the General Maximum Price Regulation lies in the possibility of further increases in raw agricultural commodity prices. Until the prices of those commodities reach the minimum ceiling levels established by the Emergency Price Control act, they cannot be controlled by the Office of Price Administration.[21] Already breaks in the price ceilings for canned fruits have been announced and other ceilings are being threatened unless funds are provided to subsidize processors for increases in farm prices. Processors may be subsidized directly or the Commodity Credit Corporation can, as it has in the case of certain commodities, buy the raw commodities at market prices and sell them to processors at prices low enough for them to maintain their prices to the dealers. To subsidize agricultural commodities by an amount sufficient to allow farm prices to rise to the minimum ceiling prices established by the Emergency Price Control act without preventing a further break in OPA price ceilings would cost in excess of 3 billion dollars annually. It is quite important to prevent by the use of subsidies or by some other means a rise in the cost of feed grains because of the effect of an increase in the cost of feed grains on the value of meats. Assuming no change in the feed-meat ratios, a rise in the prices of feed grains to the minimum price ceiling levels for agricultural commodities would increase the farm value of meats by more than 50 per cent.

Assuming no change in the pattern of farm to retail price spreads,[22] a given increase in farm prices will result in a much greater increase

[19] War risk insurance rates on cargo from Brazil have risen from 1 per cent of the value of cargo to 15 per cent since the beginning of the year. The rates on cargo from India have risen from 3 per cent to about 25 per cent of the value of the cargo over the same period.

[20] The War Shipping Administration is also subsidizing the coastwise transportation of petroleum products.

[21] According to the Emergency Price Control act of 1942, Sec. 3 (a): "No maximum price shall be established or maintained for any agricultural commodities below the highest of any of the following prices. . . . (1) 110 per centum of the parity price for such commodity . . .; (2) The market price prevailing for such commodity on October 1, 1941; (3) the market price prevailing for such commodity on December 15, 1941; or (4) the average price for such commodity during the period July 1, 1919 to June 30, 1929."

[22] See Richard O. Been and Frederick V. Waugh, *Price Spreads Between the Farmer and the Consumer* (1936); See also, *Supplement* to 1936 Report (Feb., 1941).

in the retail value of farm commodities. This initial increase in retail value will interact on the parity index or the index of prices paid by farmers to cause a still greater increase in the minimum price-ceiling levels below which OPA cannot control farm prices.

4. *Increased Transportation Costs.* Transportation costs on several important commodities have increased sharply since the establishment of the general price ceiling in March 1942. These increases have resulted largely from the shift from water-borne to rail transportation, and the increases in the cost of shipping by water itself. Probably the most publicized case of an increase in transportation costs is the increased cost of shipping petroleum products to the east coast by rail instead of by tanker. This increase resulted in OPA's raising the price ceiling on gasoline by 2½ cents. Last August it became possible to rescind this price increase when the Reconstruction Finance Corporation agreed to subsidize the increase in transportation costs. The RFC is also subsidizing the increased costs of shipping coal to New England by rail instead of by water as was formerly the case.

5. *Subsidizing High-Cost Output.* Where higher than ceiling prices are necessary in order to obtain the output of high-cost firms or in order to obtain the marginal or high-cost output of efficient firms, it may be more desirable for the government to buy the marginal output at premium or above-ceiling prices and then resell at ceiling prices. For example, in the case of zinc, lead and copper, the Metals Reserve Corporation pays premium prices to firms for output above their assigned quotas, the quotas being established on the basis of that output which the firm can afford to sell at ceiling prices. Very efficient firms will have high quotas with very little of their output receiving the premium price; high-cost firms may have no assigned quotas but may be permitted to sell their entire output at the premium price. To the extent that the Metals Reserve Corporation resells the above-quota metal at the ceiling price it is subsidizing the high-cost output. Since the bulk of the metal is used for military production, the government itself saves many millions of dollars by paying a differential price for high-cost output as compared with the old bulk-line method in use during World War I.

In addition to the above types of subsidy cases, subsidies might be used to cover increased wage costs resulting from wage rate increases granted by the mediation or arbitration authorities. It would of course be unwise from the standpoint of price control to grant subsidies in every case where wage increases occur. In the absence of direct controls over factor costs, price controls must be administered so as to put pressure on costs.

The Economic Justification of Subsidies

The economic justification of a subsidy program designed as an aid to price control must be concerned with two important questions: (1) How do subsidies affect the distribution of income? (2) Are subsidies inflationary?

In considering the first question, it should be pointed out that a properly administered subsidy program should not constitute a benefit to the industries or firms receiving the subsidies. Subsidies should be paid for the purpose of enabling producers to continue producing essential commodities and at the same time to hold down or to reduce their prices in the face of higher costs. They should compensate for at least no more than the reduction in profit for which the imposition of price control is responsible. Where margins are sufficient to absorb cost increases without an unreasonable reduction in profits, subsidies should not be paid. If this principle is adhered to, subsidies will not increase the net profits of the firms receiving them as compared with what they would be if prices were allowed to rise.

Holding down prices by means of subsidies paid out of public funds makes for a more equitable distribution of essential commodities made scarce and more costly by wartime demands. When prices are allowed to rise, limited supplies go to those whose incomes are greatest. Equitable distribution requires that lower income groups should be on an equal footing with the wealthy in obtaining the essential cost-of-living commodities. Where supplies are so limited that the demand cannot be satisfied at existing prices, rationing should be instituted.

The question as to whether subsidy payments are inflationary has little meaning except in relation to the alternatives available, namely, either permitting the production of the commodities in question to be curtailed or perhaps eliminated entirely, or allowing a rise in prices. In some cases it may be better to permit production to fall or even to cease entirely rather than to subsidize production. If the productive resources of firms unable to continue operations without a subsidy were transferred to profitable firms, the value of their product would be at least equal to the income payments which they receive, while if these firms were maintained by means of subsidy payments, the income payments to the productive factors would exceed the value of their product. When the entire resources of firms can be transferred to more profitable use elsewhere, it is clearly not desirable to subsidize unless the particular output is critical. In such cases the payment of subsidies would be more inflationary than permitting the elimination of firms, since with subsidies, income payments to the productive

factors would be greater than the value of the output. Where resources are not transferable, subsidies will be more inflationary than allowing the firms to fail if the income payments to the productive factors amount to more than the value of the products. But in wartime, high cost production or the use of less efficient resources should not be eliminated simply because their employment adds to inflationary pressures. The primary objective must always be the maximization of production of war goods and essential consumers' goods.

Of greater significance for this discussion of subsidies and inflationary pressure is a consideration of subsidies as an alternative to a price rise for the commodity whose costs have increased. In one sense, a subsidy to keep prices down is less inflationary in so far as the subsidy program achieves its purpose, *i.e.*, actually holding down the level of prices. But in the face of a level of consumer demand in excess of the volume of goods available for civilian consumption at a given level of prices, maintenance of the price level may be only a short-run achievement; perhaps even a Pyrrhic one if the subsidy payments constitute a net contribution to the sum total of inflationary pressures as compared with the situation under a price rise.

The amount of inflationary pressure at any given time is used here to mean the excess of aggregate monetary expenditures on the part of consumers in any given period over the current production of goods available for civilian consumption during the same period valued at prices existing at the beginning of the period. Under rigid price control, inflationary pressure need not result in higher prices; it may simply deplete dealers' stocks at a faster rate than they can be replaced and hasten the day when general rationing will have to be instituted. The following analysis of the effects of subsidies as an anti-inflationary device first takes account of the *direct* or *immediate* effects of subsidy payments on inflationary pressure; and second, and perhaps more important from the standpoint of judging the value of a subsidy program, the secondary effects of subsidies designed to keep prices down.

Unless accompanied by increased taxation, government subsidies add to the total stock of purchasing power. There are, however, certain compensating factors in the use of the subsidy method as compared with that of permitting prices to rise, which should be explored before judgment can be passed even as to the direct inflationary effects of these two methods. In order to compare the inflationary effect of a subsidy payment with that of permitting a given price to rise, the total volume of purchasing power in existence for each case must not be the sole basis of comparison; the disposition of the purchasing power in the

two circumstances must also be taken into account. Let us assume that the total production of goods available for civilian consumption over a given period of time is fixed, but that the rate of consumption can be varied by increments or decrements to dealers' stocks. It will also be assumed that certain uncontrolled cost items have risen and that the government is faced with the alternative of either paying subsidies or permitting prices to rise. If by means of subsidy payments to the sellers, a given price is held down, consumers will be able to buy more goods with the same amount of money than they could if the price were allowed to rise. (If the demand for the commodity is elastic, consumers will buy more of that commodity at a lower price; if it is inelastic, they can buy more of other commodities.) If consumers maintain the same volume of money expenditures in both cases, sellers' aggregate receipts will be greater by the amount of the subsidy when the price is maintained than in the case where prices are allowed to rise.

On the assumption that the rate of subsidy per unit of sales is equal to the rise in price if the subsidy is not paid, sellers' gross margins will remain the same.[23] The bulk of the increase in sellers' revenue will represent increased cash from the sale of stocks at a faster rate than they can be replaced and, therefore, will not represent a net addition to consumer purchasing power. Subsidies under price control, therefore, do not represent an increase in inflationary pressure as it has been defined. Subsidy payments allow existing inflationary pressures to take the form of depletion of inventories rather than increases in prices, since under the assumption stated above aggregate money expenditures of consumers are not increased.

The above analysis makes certain assumptions which are open to question. First, there is the assumption that consumers will maintain the same volume of money expenditures out of a given level of money income regardless of the level of prices. But at a lower level of prices *real* income will be greater with the same money income. If the marginal propensity to consume (in *real* terms) is less than the average propensity to consume, money expenditures out of a given level of money income will be less at lower prices than at higher prices.[24]

[23] Since sellers will be selling more units at a lower price, aggregate net profits will actually be greater over a given period. But since sellers will be aware of the fact that they are depleting their stocks at a faster rate than they can replace them, they are likely to hold this increase as a reserve.

[24] The proof of the above proposition is as follows:

Let Ym = money income of consumers

" Yr = real income of consumers with rise in prices

" Cr = real consumption with price rise

" ΔYr = increase in real income if prices prevented from rising

Thus, if prices are prevented from rising by means of subsidy payments, inflationary pressure will be less than it would be if prices rose, provided that the marginal propensity to consume (in real terms) is less than the average propensity to consume, *i.e.*, provided that consumers tend to save a larger proportion of their real incomes as real income rises. The difference between money expenditures by consumers out of a given level of money income at higher and at lower prices will be larger the greater the difference between the average and marginal (real) propensities to consume.[25]

The assumption of a negatively sloped average (real) propensity to consume function appears to be quite reasonable under present

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" ΔCr = increase in real consumption if prices prevented from rising
" p = price level before price rise
" Δp = amount of rise in price level
" Cm = money expenditures of consumers with price rise
" Cm' = money expenditures of consumers without price rise

Let $k = k(Yr) = \frac{\Delta Cr}{\Delta Yr}$, the marginal propensity to consume

$$Cm' = (Cr + \Delta Cr)p$$
$$Cm = Cr(p + \Delta p)$$
$$\Delta Cr = k.\Delta Yr$$
$$\begin{aligned} Cm' - Cm &= Cr.p + \Delta Cr.p + Cr.p - Cr.\Delta p \\ &= \Delta Cr.p - Cr.\Delta p \\ &= k.\Delta Yr.p - Cr.\Delta p \end{aligned}$$

$Cm' \rightleftharpoons Cm$ according to whether

$$\frac{k.\Delta Yr.p}{Cr.\Delta p} \rightleftharpoons 1$$

$$\Delta Yr = \frac{Ym}{p} - \frac{Ym}{p + \Delta p} = \frac{\Delta p Ym}{p(p + \Delta p)}$$

Substituting,

$$\frac{\dfrac{k.\Delta p\ Ym.\ p}{p\ (p + \Delta p)}}{Cr.\Delta p} = \frac{k.\ Ym}{Cr(p + \Delta p)}$$
$$= \frac{k.\ Ym}{Cm}$$

Let $e = e(Yr) = \frac{Cr,}{Yr}$ or the average propensity to consume

$$e = \frac{Cm}{p + \Delta p} \Big/ \frac{Ym}{p + \Delta p} = \frac{Cm}{Ym}$$
$$Cm = e\ Ym$$

Substituting,

$$\frac{k.\ Ym}{Cm} = \frac{k.\ Ym}{e.\ Ym}$$

Cm' will be less than Cm, when the marginal propensity to consume is less than the average propensity to consume

[25] The proof of this statement is as follows:

From note 24 we have, $\frac{\Delta Cr.\ p}{Cr.\Delta p} = \frac{k}{e}$

conditions. In a period of large money incomes and high rates of saving, consumers will attempt, at least in the short run, to maintain the same level of consumption with a rise in prices, thereby increasing their rate of money expenditures. The advantages to be gained from the decrease in inflationary pressure through maintaining prices by means of subsidy payments must be weighed against the greater rate of inventory depletion and the hastening of the time when rationing will have to be instituted. It should be pointed out, however, that whenever inflationary pressures exist, all efforts to maintain prices by direct price controls tend to channel existing pressures into a depletion of inventories as opposed to forcing a rise in prices. But as was shown above, the inflationary pressure accompanying a given level of income is likely to be less at lower than at higher prices.

In the above analysis the assumption was made that the rate of subsidy was equal to the potential price rise. This will generally not be true, since subsidies can be scaled down by the amount by which sellers' profits exceed a reasonable level. This means that under a subsidy program sellers' margins, and hence their gross profits out of which they pay wages and profits, will be less than if prices are permitted to rise. Total revenues of sellers will, of course, be larger by the amount of the subsidy minus the reduction in consumers' money expenditures over what they would be at higher prices; but with no increase in production, this increase in sellers' revenues will represent, as pointed out before, stock liquidation and will ordinarily not be spent but will be held in the form of idle balances or used to pay debts. To the extent that sellers use their additional receipts for making consumption expenditures, inflationary pressures will be larger, but such expenditures will ordinarily not be large.

Sellers' revenues will also be less under a subsidy program to the extent that the subsidization of costs at the point where the cost increases have occurred prevents the pyramiding of costs and prices.

$$\Delta Cr.p = \frac{k}{e} \, . \, Cr.\Delta p$$

$$\begin{aligned} Cm - Cm' &= Cr.\Delta p - \Delta Cr.p \\ &= Cr.\Delta p - \frac{k}{e} \, . \, Cr.\Delta p \\ &= Cr.\Delta p \left(\frac{e-k}{e}\right) \end{aligned}$$

$$Cm - Cm' = \left(\frac{Cm.\Delta p}{p + \Delta p}\right)\left(\frac{e-k}{e}\right)$$

Thus, money expenditures out of the same money income will be larger at higher prices than at lower prices according to the above relationship. This amount will be larger, the greater the difference between the average and marginal (real) propensities to consume.

Subsidy payments, at most, compensate only for the absolute increases in costs, while if these costs are allowed to be reflected in higher prices, there is the danger that retail prices may rise by the same percentage as the rise in costs.

Thus far only the direct or immediate effects of subsidies on inflationary pressures have been considered. But it is in their secondary effects that the dynamic possibilities of price controls reveal themselves. The fact that consumers' money expenditures out of a given level of money income are likely to be less if prices are prevented from rising, makes easier the essential function of closing the inflationary gap, unless one considers that a rise in prices constitutes a solution to the problem of the gap. To close the gap simply by permitting prices to rise not only defeats the purpose of an anti-inflationary program, but also generates forces which tend *ex ante* to widen the gap still further. To the extent that the rate of subsidy payments is smaller than the price rise which the subsidy program is designed to prevent, sellers' gross profits will be larger under a price increase. This fact will result in higher income payments. Moreover, the increase in prices will lead to demands for higher wages which, when granted, will further increase income payments. Higher retail prices may also result in higher farm prices, since retail prices enter into the calculation of the index of prices paid by farmers, which is used in the determination of the parity index for agricultural prices.

It has not been our purpose in this paper to present a complete discussion of the concept of the inflationary gap or of the methods by which it might be closed. It is our conclusion, however, that a carefully planned subsidy program designed to prevent price increases on account of increases in the cost of essential commodities is likely to be less inflationary than the alternative of allowing prices to rise. This conclusion may, of course, be readily disputed if one chooses to define inflationary pressure as any increase in real expenditures relative to the current supply of goods available for civilian consumption. But to hold to this definition of inflationary pressure would be to deny that closing the gap by means of a price rise is inflationary.

Washington, D.C.

THE FOUNDATIONS OF THE DEMAND CURVE

By SIDNEY WEINTRAUB

I. Introduction

Modern economic analysis might be dated as beginning with the intensified study of the forces of demand. The use of the demand curve has accompanied this development almost from the start. Nevertheless, despite the importance of this analytic tool there are few thoroughgoing discussions of the foundations on which the curve rests. Isolated remarks are found in abundance, especially so in recent years when the conventions of earlier practice have been called into question. It is probably time to integrate these remarks and to see where they lead: to contrast them to the older ideas and their end-results.

In the discussion, attention will first be devoted to the older, and more usual, views of the demand curve. Actually this amounts to an examination of Marshall's assumptions. For not only did he take the trouble to mention its grounding, in contrast to lesser luminaries, but he also did most to implant the curve in the general and professional consciousness, although not actually the first to use the concept.[1]

After surveying Marshall's ideas, stress will be placed on the major theme of the article, namely, of the interrelations among demand curves. Then, after consideration of some supplementary matters, a restatement of the assumptions on which the demand curve rests will be offered.

II. The Marshallian Demand Curve

Turning through Marshall's *Principles* for a statement of the assumptions on which he draws the demand curve we find them to be fourfold: (1) given tastes of the consumer; (2) given income in the hands of the consumer; (3) prices (and quantities consumed?) of other commodities given and constant; (4) the marginal utility of money to consumers

[1] Among those who antedated Marshall were Cournot, Jevons and Walras in content if not always in geometry. Yet I think the rôle attributed to Marshall is merited. But see the use made of the curves by Fleeming Jenkins, *The Graphic Representation of the Laws of Supply and Demand* (London: Series of Reprints of the London School of Economics, No. 9, 1931). Despite the recent resuscitation of this work it does not seem ever to have had a wide audience. Marshall, however, does refer to it. See his *Principles of Economics* (London: Macmillan, 1920), eighth edition, p. 476n.

also constant.[2] The first three conditions, we shall see, fix the position of the curve in the chart field. The fourth serves to settle its shape. Needless to add, some definite time period is in mind: it is only for this interval that the curve is descriptive. Let us consider each of the Marshallian premises in turn.

The first supposition, of given tastes on the part of consumers, can be readily appreciated and accepted without reservation. For only then can we draw the familiar downward sloping demand curve showing the various quantities that will be purchased at successive prices. Alterations in tastes imply a shift in the curve, a movement from one position to another. Decreased desire is thus always depicted by a leftward movement. Increased preference for the commodity will, on the other hand, move the curve to the right.

Naturally enough we must presume a given income in the hands of consumers before the individual's demand schedule for a commodity can be traced. No quarrel can be found with this premise either. In the vast majority of cases we should expect the demand curve to move to the right when income increases. Certain instances may be found, however, where rising income leads to a diminution in demand. Yet these cases may be referred to as the more extraordinary occurrences.

The third postulate of Marshall is that other prices are to be taken as constant while the full course of the demand curve for any specific product is sketched.[3] This, we shall find, leads to more vexatious issues and is the major interest of this article.

Long ago, Marshall taught that the demand curve for tea will be of a certain order when a high price rules for coffee and, on the other hand, will contract when the price of coffee falls lower, other things the same. Marshall insisted, therefore, that the demand curve for closely rival products, or substitutes either in production or consumption, cannot be drawn unless the price of the related commodity is taken as constant throughout the curve tracing.

Now this procedure does seem reasonable. At the same time the assumption must profoundly affect the use of the demand curve from the standpoint of problems of monopolistic competition. For these are the very instances in which sellers are competing by making ready for market exceedingly close substitutes.[4] Indeed, apart from a few highly

[2] Statements of these conditions may be found scattered through the following sections and pages of the *Principles:* Book III, chaps. III and IV, pp. 95, 100-101, 109 and 132; also Mathematical Appendix, note VI, p. 842. *Cf.* also A. L. Bowley, *The Mathematical Groundwork of Economics* (Oxford: Clarendon Press, 1924), pp. 26, 50, 52, 54, 58. Bowley is more explicit on the assumption of other quantities also constant. At the least it is implicit in Marshall's fourth postulate.

[3] Marshall, *op. cit.*, p. 100.

[4] See Chamberlin's article "Monopolistic or Imperfect Competition?" *Quart. Jour. of Econ.*, Aug. 1937, vol. li, pp. 570-72.

restricted cases the demand curve, if it must be based on this assumption, would be useless. With rivals selling narrowly differentiated products it would only rarely be the case that their price will remain constant while the "price-innovating" seller varies his sales terms. The assumption must be viewed as unrealistic.

Although the inadequacy of the third postulate would be enough to destroy the widespread use of the Marshallian demand curve for problems of monopolistic competition—although not a family of curves as Chamberlin has shown[5]—we are not thereby released from analyzing the meaning and rationale of the final one, namely, the hypothesis of a constant marginal utility of money. We shall find, however, that it also requires the previous assumption along with it. This may be delved into further.

As are all marginal utilities, the marginal utility of money is defined as the addition to total utility made by an increment or a further unit of money.[6] Inasmuch as at the margin the desire for money is equated to the desire for goods,[7] the marginal utility of money can be measured by the additions to total utility made by the goods which a further increment of it can purchase.

In equilibrium, for all consumers, the marginal utilities of all goods purchased are proportionate to their respective prices. This is essentially the condition of equilibrium.[8] If one good sells for 10 cents and another for 20 cents and both are purchased, the latter must afford twice the satisfaction of the former. Otherwise, there would be the incentive to switch purchases one way or the other.[9]

Thus where commodities X, Y, Z . . . are purchased, $\frac{MUx}{Px} = \frac{MUy}{Py} = \frac{MUz}{Pz} = K.$

These ratios of the marginal utility of commodities to their respective prices reflect the marginal utility of money, K. They indicate the

[5] Edward Chamberlin, *The Theory of Monopolistic Competition* (Cambridge: Harvard Univ. Press, 1938), 3rd ed., pp. 90-93. Also a recent article making use of the same device, A. Smithies, "Equilibrium in Monopolistic Competition," *Quart. Jour. of Econ.*, Nov., 1940, vol. lv, no. 1, pp. 97-98.

[6] Marshall, *op. cit.*, pp. 95-96.

[7] For a clear formulation of this, despite the fact that the thought is embraced today by the leading writers on monetary theory, see J. R. Hicks, "A Suggestion for Simplifying the Theory of Money," *Economica*, Feb., 1935, N.S. vol. ii, no. 5.

[8] See Marshall, *op. cit.*, p. 95. Or any of the more thoroughgoing statements of *Principles, e.g.*, Wicksteed, Wicksell, Hicks, Pigou, etc., neglecting the more mathematical writers.

[9] This, of course, is not to say that the absolute amount of utility received by different consumers is the same. This would be a false deduction.

incremental importance that another unit of money would have.[10]

Holding K constant in drawing the demand curve for X, therefore, can be interpreted to mean any of the following things: (1) the total amounts consumed of all other commodities, Y, Z, . . . , and their prices, remain absolutely rigid as the price of X and its consumption varies along the course of the demand curve; (2) the marginal utility of the same stocks of other goods, Y, Z . . . , as formerly are affected when Px varies but offsetting movements in Py and Pz keep the ratios constant; (3) both quantities and prices of the other commodities vary while we move along the demand curve for X, but their variations are just sufficient to keep the ratios constant.[11]

Any of these interpretations might be placed on the Marshallian supposition. But it is apparent that senses (2) and (3) conflict with the second demand postulate, of other prices constant. They cannot have been intended. Furthermore, should either of them be the meaning attached, we would inevitably have to investigate intermarket relations as the price in one market varied. But these were the very problems that Marshall wished to avoid.[12]

Even the first sense, Marshall unequivocally stated, was an appropriate and serviceable one only when the amount spent in any one market formed a small part of the individual's total expenditure. Repercussions in other markets could then be safely neglected, as "of the second order of smalls." This would be the more true especially when, as he suggested, only minor deviations on one side or the other of the ruling price had to be considered.[13]

Let us see now the function performed by this hypothesis. Marshall wanted to exhibit the movement in the demand for X of a fall in its price. Thus as Px falls with Py constant, the consumption of X must

[10] This definition may be found in many writers: Marshall, *op. cit.*, Mathematical Appendix, p. 833; Bowley, *op. cit.*, p. 55; J. R. Hicks, *Value and Capital* (Oxford: Clarendon Press, 1939), Mathematical Appendix, p. 305; Henry Schultz, *The Theory and Measurement of Demand* (Chicago: Univ. of Chicago Press, 1938), p. 34; Vilfredo Pareto, *Manuel d'Economie Politique* (Paris: Marcel Giard, 1927), Mathematical Appendix, pp. 579, 585, to name but a few sources. It was this assumption of constancy in K that furnished Pareto with a continual base for attack on Marshall. Through voiding it in his new, important contribution, Hicks has been able to widen the scope of modern value theory.

[11] M. Friedman, "Professor Pigou's Method for Measuring Elasticity of Demand from Budgetary Data," *Quart. Jour. of Econ.*, Nov., 1935, vol. l, pp. 153-54, offers slightly different interpretations of a presumedly separate use of the idea of constancy in the marginal utility of money by Pigou. See, however, the latter's reply and a note by N. Georgescu-Roegen, in the same journal, May, 1936, pp. 532-39.

[12] *Cf.* Hicks, *op. cit.*, p. 12. For clearly Marshall's assumption means a unity elasticity of demand in the market reviewed and no ramifications elsewhere; that was why he adopted it. See Schultz, *op. cit.*, p. 48.

[13] See Marshall, *op. cit.*, p. 133.

inevitably expand in order that the utility-price equilibrium ratios be satisfied.

Hence Marshall was able to give a forthright explanation of the downward-sloping demand curve. There can be no gainsaying the fact that Marshall was always aware of the nature of his assumption even though it was not so discernible to many of his followers through the years. He suggests that only in a few practical cases, as the famous Giffen case and that of the supply of labor, would the hypothesis be inappropriate.[14] Scientifically he could thus proceed directly to the final results without the mass of explanation that would be required in taking into account movements in the marginal utility of money. In the end either such movements would merely confirm the conclusion reached more immediately or they would yield *curiosa* interesting solely to the theorist.[15]

Let us see what might happen if the marginal utility of money increased, or Y, Z . . . etc., increased in relative importance as the price of X fell. The income saved by the fall in price of X would leave a sizeable margin for expenditure. Subsequent rearrangement in the outlay, the buying of more Y, Z . . . at constant prices might lead to less need for X: a decreasing amount might be purchased, despite the fall in price, in order to keep the utility-price ratios in line. Demand for X would decrease as its price fell.

In case of a fall in the marginal utility of money as the price of X fell, there would be an excessive expansion in the demand for X. There would be a switch from Y, Z . . . to X. Decidedly the demand curve would be of normal form. But at the same time repercussions in other markets would be important and could not be precluded.

Believing both of these cases to be unusual, or a belief in the normal impotency of the income effect, as Hicks has recently dubbed the rearrangement of expenditure consequent upon a change in real income,[16] led to the Marshallian device and simplification. There is no reason why Marshall need be followed here. His demand curve follows readily enough from the first three postulates. This last one was designed merely to account for its normal shape. At the same time it avoided market interrelations. Seldom, we can admit, will the demand curves differ from the patterns sketched by Marshall. Since these anomalies do occur we need not *a priori* assume them away.

[14] *Ibid.*, pp. 132, 335-36. *Cf.* also Hicks, *op. cit.*, pp. 35-37.

[15] As Marshall probably would regard preoccupation with anything other than the normal shaped demand curve. *Op. cit.*, p. 132.

[16] Hicks, *op. cit.*, pp. 31-32, and *passim*. In indifference curve analysis the assumption of a constant marginal utility of money would mean a shift in demand to X from Y and Z as the price of X fell, due to the substitution effect, while the income effect would work to restore the original demands for Y and Z.

On the other hand, there is absolutely no reason why we should accept the device in so far as it amounts to a refusal to recognize and deal with market interrelatedness. For this must be handled in modern analysis.

III. The Inadequacy of the Marshallian Construction

Let us review the relevance of the Marshallian demand curve to a typical problem of current economic analysis, namely, the equilibrium of the firm, emphasizing its relation to the rest of the economic system. Each firm is conceived to produce a commodity for which rivals can only offer substitutes of a near or remote degree. Differences among commodities may be technical, geographic, or psychic; the latter differences are those viewed by consumers, whether the basis be real or factitious.

In the demand for the firm's product, the first two assumptions of Marshall carry ready assent. Tastes and incomes must be postulated. Of the remaining two postulates, that of the constant marginal utility of money can be dispensed with immediately.

This leaves us with the necessity of reconsidering solely the assumption of other prices constant while drawing the demand curve for a commodity X. It has already been said that this is at the height of unreality for the world currently envisaged by the economic theorist.

Suppose all firms were adapted competitively to the existing demand, therefore equating marginal costs and prices. Let us say that one firm suddenly decides to raise its price to exploit what it now recognizes to be a monopolistic position. Let us sketch the consequences.

Two possibilities emerge. Demand may be found inelastic. The rise in price will inflate the firm's gross proceeds. Either the demand for other goods will contract or consumer savings will diminish.[17] As close substitutes of a good in inelastic demand are unlikely, prices of other goods should show a sagging tendency.

In a world of close substitutes the more likely possibility is that demand will be found to be elastic.[18] The higher price charged for the article will stimulate a shift in demand to neighboring products. There should be a tendency for an immediate rise in prices, a tendency which would be reinforced through time by mounting marginal costs.

Converse movements would mark a fall in the price. Nearby sellers would have to lower their prices or see an excessive decrease in the quantity demanded.

[17] There is a point of interest here for business cycle analysis. See N. Kaldor's handling of kindred matters in "Speculation and Economic Stability," *Rev. of Econ. Studies*, Oct., 1939, vol. vii, no. 1.

[18] *Cf.* A. C. Pigou, *The Economic of Welfare* (London: Macmillan, 1932), 4th ed., pp. 259-62.

In all of these cases the assumption of other prices constant is a gross misfit. To continue to use it would be to remain blind to the phenomena.

Thus, if the demand curve is to be drawn on the assumption of other prices constant, its usefulness for economic analysis is either negatived or, at the least, seriously impaired. And the same criticism applies to the device of drawing a family of demand curves each attached to a separate price of the rival's product. For only one point on each curve is consistent with the rival's price policy: to draw the full course of the curve is to intimate that all price-quantity points are possible adjustments when, as a matter of fact, they are not.[19]

Unless a demand curve can be drawn on the assumption of other prices adjusted to compatibility with that named by the firm under review, it seems that this time-honored apparatus of economics must, if not disappear from the literature, play a rôle much subordinate to its position in the past. Ordinary ideas and topical treatment would have to be extensively revised. Simplified economics would be well-nigh impossible.

Now there are intimations in the literature that demand curves need not of necessity be drawn on the assumption of other prices constant. Indeed we need not go beyond Marshall himself to affirm it. In a footnote—as is so often the case in his work[20]—Marshall observed: "We must however remember that the character of the demand schedule for any commodity depends in a great measure on whether the prices of its rivals are taken to be fixed or to alter with it."[21] The inescapable inference is that the assumption of other prices constant is not strictly necessary.[22]

Hicks apparently concurs in this view. In a passage which is seldom iterated he argues that the demand for any product may be examined under either of two assumptions: (1) that other prices are given, or (2) that other prices are adjusted as to preserve equilibrium in their markets, given the price in the market under review.[23] Moreover, he affirms that the latter is the more important investigation. It should be

[19] See the previous reference to this construction of Chamberlin, n. 5 above. The criticism would have to be amended only for the very short run or "frictional" interval in which rival's prices are constant. But then the appropriate contrast is that between the short- and long-run demand curves: only one curve is pertinent to a given time interval.

[20] *Cf.* J. M. Keynes, "Alfred Marshall," in *Essays in Biography* (New York: Harcourt Brace, 1933), p. 205.

[21] Marshall, *op. cit.*, p. 105n.

[22] This is the sole time Marshall makes this point so far as I can see.

[23] Hicks, *op. cit.*, p. 66.

noted that the alternative formulations of demand are the very ones staked out by Marshall.

Mrs. Robinson too was inclined to this second view of the demand curve. Yet she never pushed the argument very far. Instead, she asked that for her work we merely admit the demand curve can be drawn without passing on its ultimate nature.[24] On the other hand, Chamberlin actually gave a demonstration of how such a demand curve might be derived. Yet he recognizes it as contrary to usual ideas and refrains from calling it a demand curve; he refers to it instead as a new type which stems from the "usual" demand curves in his parametric representation, the curve family drawn on the Marshallian condition of other prices constant.[25]

With these theorists apparently in agreement on the possibility of drawing a demand curve—or something very reminiscent of it—even on abandoning the hypothesis of other prices constant, the matter deserves closer scrutiny.[26] Needless to say it jars the common workaday ideas.[27]

IV. Interrelations of Demand Curves

Each monopolist with power to name the price for his product, despite the occasion of substitutes, and without fear that demand will suddenly contract to zero, will nevertheless continually bear in mind the resistances largely in the shape of the rival's price policy to any price movement he makes.

To illustrate the interdependence of demand and price for two closely related substitutes, A and B, let us suppose as before that both sellers are originally in competitive equilibrium, adjusting price and marginal costs. As a simplification we assume constant costs in both lines.

[24] Joan Robinson, *Economics of Imperfect Competition* (London: Macmillan, 1933), p. 21. On this basis she is able to proceed with her characteristic problem, the equilibrium of the firm, without bothering with market interrelations.

[25] Chamberlin, *op. cit.*, p. 90.

[26] Edgeworth states, without further explanation, that the postulate "might be dispensed with." Oddly, he supports its retention so as to secure "that exact correlation between the demand curve . . . and 'consumers rent.'" See his "Demand Curves," *Dictionary of Political Economy* (Palgrave, ed.), vol. 1, p. 543. Likewise Professor Robbins argues that the curve is germane not to the static world of "other things unchanged" but to comparative static analysis. See "Remarks Upon Certain Aspects of the Theory of Costs," *Econ. Jour.*, Mar., 1934, vol. xliv, no. 173, pp. 8, 10. For more recent statements see P. M. Sweezy, "Demand Under Conditions of Oligopoly," *Jour. of Pol. Econ.*, Aug., 1939, vol. xlvii, no. 4 and M. Bronfenbrenner, "Applications of the Discontinuous Oligopoly Demand Curve," *ibid.*, June, 1940, vol. xlviii, no. 3.

[27] Even as recent and modern a work as R. G. D. Allen's *Mathematical Analysis for Economists* (London: Macmillan, 1938), p. 109, makes the assumption of constant prices quite explicit in drawing the demand curve, to mention only one of the more rigorous treatments of economics.

In Figure 1 the demand for A's product is OM at the ruling price OL_1. The demand for B's commodity, shown in Figure 2, is Om, and at the ruling price Ol_1. The demand can thus be represented by a simple bar line at the pertinent price, extending out to the corresponding output.

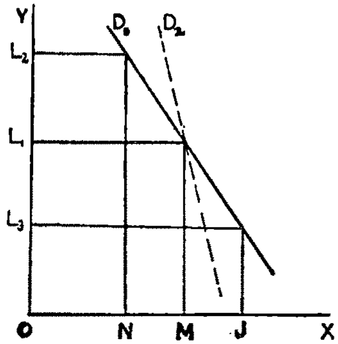

FIG. 1

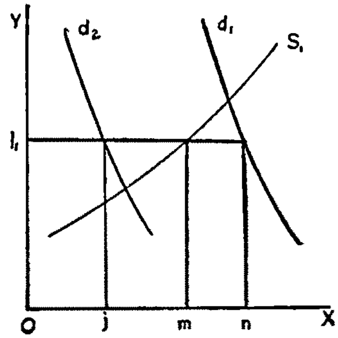

FIG. 2

Let us say that A comes suddenly to understand the nature of his control over price and decides to take advantage of it. He perceives greater profits by acting "monopolistically."

Price is raised to OL_2. Now a full demand curve can be drawn for B, depending on the price OL_2 in A. This curve is lettered d_1 in Figure 2. Quite clearly it is drawn on the usual principle of other prices, as that in A, being constant. Accepting the presence of constant costs in field B, and at the height Ol_1, the expansion in demand there results solely in an enlargement of output, by mn to On, as B continues to adjust price and marginal cost.

The demand for A cannot help but fall off: its price has risen relatively to B. With B's price constant at Ol_1, the demand for A comes to settle, say, at ON.

And in this manner we can proceed. For prices higher than OL_2 in A, demand curves further extended than d_1 in B can be drawn. Output will expand there. A's production, in contrast, will contract.

To complete the illustration we can visualize the monopolist A actually lowering his price below OL_1, the original adjustment, say to OL_3.

Demand in B would now fall back to d_2. Continuing the assumption of constant costs there, and therefore a rigid price at Ol_1, the quantity sold in B amounts to Oj. The amount sold by A, in contrast, is elongated to OJ.

Thus for every price in A, there is a new adaptation in B. Separate demand curves can be drawn there for every new price in A. But let us

look meanwhile at what has been accomplished for the A firm. Running a smooth curve through the coördinates at the end of each bar line showing the amounts that are wanted at various prices OL_2, OL_1, OL_3 . . . , we derive a locus suspiciously resemblant to the normal shaped demand curve. But now it is drawn not on the assumption of other fields unaffected—the usual Marshallian assumption—but instead of full adjustment elsewhere. In this respect it is an innovation.

Let us remove the hypothesis of constant costs in B. It has served its simplifying purpose. Its abandonment will hasten an extension of the argument.

Suppose costs in B can be depicted by the rising cost curve S_1. Thus when A's price goes to OL_2, and demand in B to d_1, the expansion in demand will expend itself partly in raising the price in B and partly in extending output. The sharper the price rise—or the more inelastic are costs in B—the smaller will be the contraction in demand at firm A. In the contrary case, imagine the price in A lowered to OL_3. The backward shift in demand for B to d_2 will engender a lower price there. The expansion of sales in A will be damped.

Once more, using the original coördinates at OL_1 and OM as a pivot a smooth curve—the dashed line D_2—can be traced out in Figure 1, showing the quantities of A's product that will be taken off the market given the rising cost curve S_1 in B. It offers an obvious contrast to D_1 which conceived of only quantities, and not prices, being affected in B.

Certain instances in which cost conditions in B are falling might also be described. Here an expanded demand will lead to a price fall. This would tend to make the demand for A at higher prices so elastic as to practically enforce the competitive (or previous) adaptation: monopoly power to raise prices would be practically nil. Should A lower his price, however, either B could be forced out of business by the losses imposed, or otherwise would have to raise his price. For the system as a whole this would act as a counterweight to the fall in A's price.

In all of these instances there is the one point which deserves very especial emphasis. It is this: *Not until price and output adjustments elsewhere are known will the sales of the A firm be determined.* The quantity demanded is thus dependent upon the full general adaptation.

We have therefore derived a demand curve which relates each point on its locus to an entirely different total adaptation, to a separate and distinct general equilibrium. There is at least one further point to be touched upon before proceeding to give some samples of the versatility of the new assumption of full adjustment elsewhere to any price of the firm under review.

It was assumed for the B firm, in Figure 2, that it merely accepted

the price ruling in A as a datum and then passively adjusted its own price and sales to the forthcoming demand. Indubitably this would be descriptive if B signified a competitive industry. But let us examine the consequences if it does not permit itself to be led in this way.

One way of resolving the problem would be by drawing "price reaction" curves and then considering whether there is a point of mutually satisfactory price relations.[28] And only that price could rule for any extended period: it alone would offer hopes of a stable equilibrium. Yet we are still not precluded from drawing a demand curve for each firm on the principle suggested, namely, each coördinate apposite to a distinct price and output elsewhere. With this in view, let us look at some demonstrative problems, some applications of the idea developed above.

Imagine first that, as our firm A varied its price, nearby sellers did likewise, lifting their prices proportionately. Should they have left their prices unchanged the demand for A would have been, say, the dashed line D_1D_1' in Figure 3. However, with A's price movement met by the

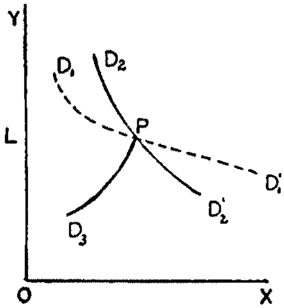

FIG. 3

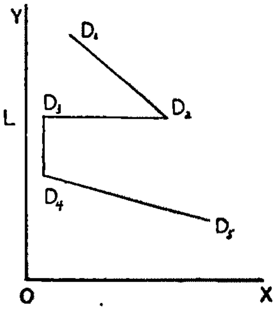

FIG. 4

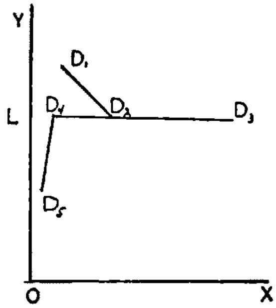

FIG. 5

other sellers, the demand curve for A is now D_2D_2', the solid line. More than before can be sold at the higher prices, above OL, inasmuch as B's prices (rival sellers), are also higher. The converse is true of prices in the lower regions below OL.

Suppose now that for prices above OL no reactions from rivals are encountered. However, for prices below OL, A's price oscillations are met. The demand curve to describe this would run from D_1 to P and then to D_2' or D_1PD_2', with the sharp corner at P.[29]

Or it may be that rivals are opposed to a price cut by A and take steps to counter it, lowering prices by 10 per cent for every 1 per cent fall at A. The demand curve would thus bend backward at P to D_1PD_3.[30]

[28] See Smithies, *op. cit.*, pp. 107-15.

[29] *Cf.* P. M. Sweezy, *op. cit.*, pp. 569, 571.

[30] *Cf.* Bronfenbrenner, *op. cit.*, p. 420-27.

Perhaps no reaction will be found for a price above OL, but for a price below this a large rival will not only meet it, but will also engage in an advertising and product variation campaign. A may either be unwilling or unable to undertake counter measures. Demand for A's product would take the queer form traced out by $D_1D_2D_3D_4$ in Figure 4.

For conventionally priced commodities a demand curve as in Figure 5 might be applicable. At prices above the customary figure of OL, demand falls severely: at prices below this figure rivals again counter by advertising or by a product variation favorable to consumers. For example, the weight of the product might be increased, though the price remains constant. Commodity A at the lower price may receive a reputation for "cheapness" or inferiority. An odd shaped demand curve like $D_1D_2D_3D_4D_5$ in Figure 5 can be traced.

And so we can proceed to draw demand curves of any shape whatever. The sole limitation seems to lie in the ingenuity of the analyst and the facts and reaction patterns of the real world. At the same time the normal Marshallian demand curve emerges as a special case, an exceedingly simple one in which rival reactions are of a single form: it pertains to the world of competition and constant costs. This, therefore, becomes the relevancy of the mass of demand curves drawn in economic literature. To continue the restriction is needlessly to hamper further analytic development.

If we are in the habit of calling the schedule drawn on the assumption of other prices constant the "demand" curve, there remains the terminological matter of referring to the new curve of final adjustment. Probably it would be simplest, and conform most to what will be done in any event, to continue to call it the demand curve, while emphasizing that no longer is it drawn on the Marshallian *ceteris paribus* but rather on a *mutatis mutandis* basis for the rest of the economic system.[31]

V. Subjective and Objective Demand Curves

Recently certain writers have argued that the demand curve had to be conceived as a subjective or imagined phenomenon. Its existence was supposed to reside in the seller's mind. Hence, it was argued, it could attain any form, be based on any premises. It could be postulated without further ado. So long as the seller thinks things are so, the curve reflects his mental state.

Now the foregoing argument has tended to confirm the view that the curve can partake of any shape whatever. Yet all along, discussion has proceeded as if the demand curve was an objective affair, the epitome

[31] Bronfenbrenner refers to the curves in this way in a footnote.

of reality. This apparent contradiction had better be resolved.[32]

Ostensibly, it is the subjective or *ex-ante* demand curve that is the basis for the producer's adaptation. Output hinges upon it. However irrationally it be conceived, however illogical its foundations, it is on the basis of this curve that the entrepreneur makes his price and output decision under monopolistic competition. The curve itself requires no further analysis. Furthermore, however inconsistent they be, separate curves can exist simultaneously in each producer's mind.

Nevertheless, in order that market equilibrium persist, that the *ex-ante* or planned price-output adaptation be a determinate one and able to continue through time, it must conform to and be consistent with certain objective conditions. Briefly, for the planned adaptation to eventuate, the position chosen must be compatible with a point on the objective, or actual, market demand curve. Otherwise the planned output will finally turn out to be too large or too small; price will be too high or too low. For expectations to be fulfilled correctly, at the output of *ex-ante* equality of marginal revenue and marginal costs the imagined or prospective demand curve must be identical to, tangent to or intersected by the market or objective demand curve. For full equilibrium, moreover, at the same planned output, average realized costs must be equal to those expected, to the *ex-ante* costs.[33]

Thus there are the two demand curves, and the conditions of compatibility between them are those stressed. Admittedly our discussion has been directed to the objective curve, the one that could be known at market time or from a retrospective view of the market state. It is this curve which entrepreneurs try to prognosticate, however imperfectly they do so. It is this curve which would be duplicated in their minds under conditions of perfect foresight. Unless entrepreneurs do foreshadow its course their adaptation will yield them less than maximum profits.

[32] For a fuller argument, see my article, "Demand Anticipations and Monopoly Equilibrium," *Jour. of Pol. Econ.*, Vol. L (June, 1942).

[33] Planned price and sales will thus depend upon the equation of prospective or *ex-ante* marginal revenue and costs. For the plans to be fulfilled the following equalities must hold:

$$AR_a = AR_r \text{ and } AC_a = AC_r.$$

where AR refers to average revenue, AC to average cost and the subscript $_a$ to anticipations and $_r$ to realized conditions. For the position to be fully stable, for a movement above or below equilibrium output, the following inequalities must hold:

$$AR_a > AR_r \text{ and } AC_r > AC_a.$$

That is to say, in revenue and in costs disappointments must be encountered in order to drive the monopolist back to the original equilibrium. Or, if there is a pleasant surprise in one respect, it must be counterbalanced by disappointment in the other. In the latter event the stability condition might be stated as dependent upon whether:

$$AR_r - AR_a \overset{>}{\underset{<}{=}} AC_r - AC_a.$$

Both concepts of demand have their place in economic analysis. One calls for little explanation, the other for an extended statement. Still, should entrepreneurial plans be at all broadly conceived, the subjective curve would have to include the same fundamental elements as comprise the objective curve. The former curve is appropriate for an insight into the motives or forces determining entrepreneurial behavior. The market or actual curves would be relevant for propositions on economical activity, on how far it has deviated from the competitive norm as a fact, and on how well or poor a job the entrepreneur has done in forecasting market conditions.[34] Finally the two curves must be considered concomitantly in matters concerning the determinacy and stability of equilibrium.

VI. The Foundations of the Demand Curve

We may now offer a more positive statement of the bases on which the demand curve rests. We saw already that of the Marshallian postulates the first two went unquestioned. Now, as before, the assumption of given tastes must be admitted. Any alteration in tastes will shift the demand curve one way or the other.[35] Again, with respect to consumer's income, this too must be postulated. We turn now to the more difficult matter of the assumptions which must be made with respect to prices.

At the outset, we might acknowledge a point unmentioned until now. Consumer views on future prices must be part of the components of present tastes or desires. In the expectation of higher prices present demand will be enlarged; and vice versa.[36] For this study, this barefaced mention will suffice.

We have already seen that with each price named by our seller, a new and distinct curve of demand would confront every other firm in the field. The output that could be sold by the price-innovating firm was indeterminate until the final price and output adaptations of the others were known. Each point on a firm's demand curve was effectually related to an entirely distinct set of prices in the rest of the economic system. Each price was therefore related to an entirely separate general equilibrium.

[34] *Cf.* J. R. Hicks, "The Foundations of Welfare Economics," *Econ. Jour.*, Dec., 1939, vol. xlix, no. 196, p. 708.

[35] The advertising policy of the firm is also a factor in shaping current tastes.

[36] On the other hand, entrepreneurial expectations of the effect of present prices on future demand will determine their present output and price policies. *Cf.* A. Marshall, *op. cit.*, p. 317, and for the more recent restatements and extensions of his ideas, see C. Roos, *Dynamic Economics* (Bloomington, Ind.: Principia Press, 1934), chap. viii; Allen, *op. cit.*, pp. 434-38, 533-36; Mrs. Robinson, *op. cit.*, pp. 22-23; R. H. Coase, "Some Notes on Monopoly Price," *Rev. of Econ. Stud.*, 1937-38, vol. v, pp. 22-25.

On this view the hypothesis of constant prices in the rest of industry becomes peculiarly relevant to the simple world of perfect competition and constant costs. Should other sellers react with price policies of their own, or should costs be other than constant, it is no use to work the fiction that their prices are "unchanged." In so far as their prices are changed, the quantities demanded of a seller will be quite different than if their prices were actually constant.

Not alone need we include the price and output adaptations of other sellers as part of the total forces shaping the demand curve for each firm, but it is also necessary to include their advertising and product variation policies as the price of our one firm alters. For, in so far as these elements do vary with movements in the price of the firm under review, demand for the latter's product will be either extended or contracted. Reaction of other sellers with respect to these two variables must also be premised along with their ordinary price reactions.

Based on these factors, demand curves no longer remain simple affairs and no longer evidence simple, straightforward forms. Restrictions on their shape become practically nil. Almost any drawing will suffice so long as it is accompanied by an adequate description of the factors responsible. We should expect that normally the Marshallian drawing will serve. However, we should not be surprised when, in investigating a particular market, something totally different eventuated.

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COMMUNICATIONS

Saving, Investment, and Technological Unemployment

Two papers in American economic journals of the past eleven years have addressed themselves exclusively to the correction of errors in the prevailing analysis of technological unemployment. It is unfortunate that the second,[1] which makes a definite contribution, should have ignored the contribution of the first.[2] It is also unfortunate that the second, written in the post-Keynesian period, should have failed to apply to the problem at hand the theory of saving and investment as determinants of employment.

Technological advance which permits production of a given quantity of goods with the use of a reduced quantity of some productive agent or agents (say, labor) concentrates a given flow of purchasing power[3] into fewer hands. Where this results in an increase in the volume of saving—which we may take to be the general but by no means necessary case—an increased volume of investment will be necessary to maintain even the new lower level of employment. A still larger increase in investment will be needed to restore the old level of employment. Surely here, and not in any consideration of fixed capital as parameter[4] or circulating capital as sustaining force,[5] lies "the key" to understanding of technological unemployment. (To this "key," of course, must be added the clue, adequately exposed by Neisser, that increased demand for

[1] Hans P. Neisser, "'Permanent' Technological Unemployment," *Am. Econ. Rev.*, Vol. XXXII (Mar., 1942), pp. 50-71.

[2] Alvin H. Hansen, "Institutional Frictions and Technological Unemployment," *Quart. Jour. of Econ.*, Vol. XLV (Aug., 1931), pp. 684-97. Reprinted as chap. X of Hansen's *Economic Stabilization in an Unbalanced World.*

[3] A given number of monetary units, that is. If prices are reduced, their real value will be greater.

[4] Neisser's argument that the quantity of fixed capital is of peculiar importance (given the state of techniques existing at the moment) in limiting employment seems totally untenable. See *op. cit.*, p. 61 and Section VII. Certainly the most that can be said is that bottlenecks may develop in one type or another of fixed capital as well as in one type or another of circulating capital or of human skills. Fixed capital is not a special genus.

[5] Neisser attacks the argument that so long as the wage fund is maintained technical advance will not cause unemployment. However, this section of his paper (Section IV) is both illuminating and confusing, the latter because he uses the same term in different senses. He refutes classical theory by a discussion concerning working capital which uses the term at successive moments to refer to a stock of wage goods, to technical equipment, and to money costs. Thus the argument (pp. 61 and 62) that working capital (wage goods) will not be set free by technical advance even if laborers are displaced, because if output increases more working capital will be needed. Nevertheless, its value may fall because the enterpriser will pay out smaller sums to factors!

goods may result in higher prices of goods or greater demand for other factors, rather than in reëmployment of labor.)

If the technical advance results in price reduction, purchasing power of the existing monetary flow will be increased. However, since the addition is only a single injection its effect will taper off, and the system, barring secondary effects of the shift in price relationships, will approach a new level of employment and income lower than the original one.

This theory of technological unemployment may be applied not merely to labor but to any factor or group of factors. For any one factor out of a group displaced, a further elaboration is necessary. The shift in purchasing power between individuals implies both a change in the volume of saving and a shift in demand. This shift in demand will cause a change in the employment of the agents displaced, in addition to that caused (1) by the original technological displacement and (2) by the change in the volume of saving. The change associated with the shift in demand will be positive, zero, or negative for any one factor, depending on whether that factor is employed in greater, equal, or smaller proportion in producing the good for which demand has increased than in producing the good for which demand has decreased.[6] (This statement may be generalized to include the effect of a shift from spending to saving or from saving to spending by regarding saving as a commodity in whose production a zero proportion of every factor is employed.)

Thus for any given factor, but not for the group, there may be complete reëmployment without increase in investment in the system.

The only hope of avoiding unemployment when factor-economizing technical advance occurs is that the technical change may induce investment, say, in a plant to make a machine which the newly invented process requires.[7] Barring a "pump-priming" effect, the favorable effect will be only temporary.

Three conclusions of considerable significance may be drawn at this stage in the discussion:

1. The Moulton and Bell arguments that price reduction prevents or tends to prevent technical unemployment need qualification.[8]

2. It must not be assumed that, given no change in consumption and saving functions, a constant level of investment will maintain full employment.[9]

[6] As a special case: if only one factor is displaced it will suffer *added* unemployment if the new demand is for goods produced *in any degree whatever* by any other factor. Note Neisser's error, *op. cit.*, pp. 54-56.

[7] Of course I do not mean investment in the machine itself. In an open system, reduction in price of a commodity may stimulate export or check import of that commodity. Increase in domestic employment secured in this way, however, is not true reëmployment, but only a means of shifting the unemployment to foreign countries.

[8] H. G. Moulton, *Income and Economic Progress* (Washington, Brookings Inst., 1935), p. 119. My criticism is of course directed at this remark only, not at other observations by Mr. Moulton concerning the effects of price reduction.

Spurgeon Bell, *Productivity, Wages, and National Income* (Washington, Brookings Inst., 1940), p. 182.

[9] *Cf. Saving, Investment, and National Income*, T.N.E.C. monog. no. 37, p. 68; "A rate of current investment equal to the current rate of saving leaves the flow of purchasing power unbroken, and maintains the level of employment, consumption, and national income."

The analysis of a model in which the state of the arts is taken for granted must not be applied to a system in which the state of the arts is changing.

3. It follows that technological advance during a prosperity period may be a deflationary force which ushers in a recession.

As a final word, it should be noted that, in discussing the historical problem of technological change and the maintenance of employment, emphasis must not be directed exclusively—or even primarily—to the expansion of investment. Either an increase in investment, with a given consumption function, or an increase in consumption (a shift in the function) with a given propensity to invest, will increase employment. Surely historically, in the United States and elsewhere, it has been by a rise in the standard of living even more than by increase in the rate of investment that the effect of technological advance upon employment has been counteracted.[10]

EVERETT E. HAGEN

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The Concept of Technological Unemployment: A Reply to Mr. Hagen's Criticism

There is no basic theoretical quarrel between Mr. Hagen and me. He shows that the replacement of labor by the machine *may* reduce the utilization of existing equipment, because it *may* increase the volume of speculative balances and *lower* the size of the current money flow. Throughout my paper I assumed, in accordance with most of the former writers on the subject of technological unemployment and for the sake of the argument, that "Say's Law" was in force, *i.e.*, that an appropriate money flow was *maintained.* Since Mr. Hagen admits that this is possible (second paragraph, second sentence of his note), my analysis seems to cover wider grounds than his. Moreover, one fundamental proposition of short-run price theory, *viz.*, that supply curves are positively inclined, is needed by Mr. Hagen as well as by me, although Mr. Hagen seems to dispute that. Were the supply curves horizontal, then total unemployment (voluntary and involuntary) in the Keynesian system (which underlies Mr. Hagen's argument) could be eliminated by the simple device of increasing the stock of money. Surely, unemployment existing solely because of the inadequacy of the monetary institutions could not be called technological according to customary terminology.

Mr. Hagen misjudges the relative positions of our theoretical arguments because he seems to have difficulty in recognizing a theoretical idea if it is couched in terms he is not accustomed to. Witness his footnote 4: "Neisser's argument that the quantity of fixed capital is of peculiar importance . . . in limiting employment, seems totally untenable. . . . Certainly the most that can be said is that bottlenecks may develop in one type or another of fixed

[10] The importance of giving shifts in the consumption function a place in one's analysis has been insisted upon by Paul A. Samuelson.

capital as well as one type or another of circulating capital or of human skills. . . ." Of course, I do not deny that bottlenecks can develop also in the field of human labor, in which case we experience "technological unemployment of machinery." But why does it follow that the limitations of the stock of fixed capital are unimportant? Or does Mr. Hagen conclude that, because both bottlenecks in fixed capital and bottlenecks in labor are theoretically possible cases, the former cannot be of significance for explaining unemployment of labor? As pointed out in my article (pp. 64-65) the original Walras system with fixed technical coefficients has meaningful solutions only if these coefficients are "adjusted" to each other; otherwise unemployed surpluses of *some* factors of production may arise. Changes in the size of such coefficients are likely to throw them out of gear. Since such changes (if pertaining to equipment) and "technological progress" are synonyms, it seems appropriate to call unemployment resulting from them "technological unemployment."

The real difference between Mr. Hagen and me originates in the difference in our mental pictures of the present economic system. Whether one deals with an economy of the type of the Chinese economy around 1900, where the peasant worked a small plot with a hoe, or with a modern industrial system, the volume of employment, according to Mr. Hagen, would always be governed by the same factor: the current volume of investment per time unit. But suppose the American economy could be suddenly converted into a system of semi-automatic plants, similar to a modern electricity plant based on water power and made of material of practically unlimited durability, would the number and size of these plants (the "quantity of fixed capital") be unimportant for the volume of employment? Could a given number of such plants, of a given size and operating with a given technique, absorb any supply of labor, *however large,* provided only the current volume of investment is sufficiently increased?[1] I cannot but answer this question in the negative. It seems to me that movement toward such an industrial state has been the main feature of the capitalist development during the last 150 years.

Two further criticisms of Mr. Hagen's, in footnotes 5 and 6, do not bear on the general argument and are based on misunderstandings. As to footnote 5: my concept of working capital is the usual one, stock of wage goods, expanded to "stock of all goods in process." At no place do I identify it with technical equipment. And when, to avoid injustice to Carnes and Sidgwick, I discussed the consequence of a fall in the value of working capital, I considered the terminological distinction between working capital and value of working capital sufficiently clear. I am sorry to learn that it has confused Mr. Hagen.

As to footnote 6: Mr. Hagen overlooks that I discussed differences in the proportion of factors employed under the explicit assumption, introduced for the sake of the argument, that the supply curves are horizontal over a

[1] This investment would, in subsequent periods, increase the number and size of plants; see Section VII of my article. For Mr. Hagen's argument this is irrelevant.

certain range. This implies an unutilized surplus of the "other factor" while Hagen in his approach assumes the absence of such a surplus.

HANS NEISSER

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The Introductory Course: Comment

Experience has led me to agree with many of the comments of Messrs. Richard Clemence and Francis S. Doody, in the June issue,[1] as to the difficulty of teaching theoretical economics to beginning students who are unconvinced of its value and whose economic studies are confined to a single semester or academic year. I should suggest, however, that this objection holds not only against the type of theoretical presentation normally given freshmen and sophomores, but also against the Keynesianized presentation advocated by Messrs. Clemence and Doody and embodied to a considerable extent in the excellent text of Messrs. Meade and Hitch. The propositions of Mr. Keynes and his followers appear to the typical college sophomore—and I think I speak from experience—as difficult and as abstract as do the ramifications of comparative advantage, marginal utility, or monopolistic competition. Students with business experience are frequently dissatisfied with the stress laid by Mr. Keynes on interest as a causative factor in determining the level of income and employment. Others refuse to accept the savings-investment equality without a great deal of highly involved and elaborate argument along Robertsonian lines. A smaller and more select group regularly objects to the treatment of all labor as homogeneous. Disentanglings and modifications are of course possible, but they take more time than they are worth, except to a tiny minority of potential economics "majors."

In attacking the essentially institutional introductory course, Messrs Clemence and Doody do not lay sufficient stress, it seems to me, on three of the most telling objections to it: First, the inclusion of so wide a range of topics and problems as is included in any of the institutionalist texts, or even the inclusion of any profuse selection therefrom, makes the discussion of any single topic, be it banking or war economics or social security legislation, so sketchy as to add little but memorized facts to the student's preëxisting knowledge as obtainable from the daily press. Second, this sketchiness of treatment, plus the absence of any standards of theoretical reasoning, serves to strengthen the student's initial appraisal of economics as a branch of the forensic arts, in which any opinion is as good as any other, and in which acceptance is dependent on oratory and authority. The effect of this belief on the prestige and usefulness of professional economists requires no com-

[1] "Modern Economics and the Introductory Course," *Am. Econ. Rev.*, Vol. XXXII (June, 1942), pp. 334-47.

ment. Third, the average student's interest in economic institutions and problems, in so far as it exists at all, is centered in a very few such institutions and problems. Without any slur on the catholicity of the academic mind, I may suggest that the instructor's interest is occasionally so centered as well. As a result, the institutional introductory course becomes a matter of sheer drudgery for both instructor and student for 80 or 90 per cent of its length.

All college teachers who have graduated from the "section-hand" stage to teach one or more advanced courses have encountered the uselessness of the "principles" prerequisite for these courses. In teaching government control of business, or labor problems, or transportation, or war economics, it is necessary either to omit theoretical points altogether or else to present the relevant ones completely *de novo*. This circumstance, perhaps, is not an unmixed curse; my own belief would classify it rather as a blessing in disguise. If the "principles" prerequisite is meaningless, why not eliminate it altogether? Why not put most if not all undergraduate economics courses on a par with each other, permitting the victim to enter at the most inviting gate?

In view of the impasse with which we seem to be confronted in the first course, and the impracticability of assuming theoretical background in the advanced courses, I venture the following proposals:

1. Students may begin their study of economics with whatever field appeals to their special interests, be it theory or any other. In courses in each field, pertinent theoretical material should be presented along with institutional description, historical background, and current problems.

2. The present principles course should be transformed into a semester or a year's concentrated course in theory. Some such textual material as Meyers, or Boulding, or Meade and Hitch, or McIsaac and Smith, or Benham and Lutz, should be used. Some discussion of the Keynesian "revolution" should certainly be included. The course should cease, however, to be a *sine qua non* to institutional work in special fields of economics. It should contain only a minimum of institutional material, on the assumption that students electing it will be primarily those who have become convinced of its value by their experience in applied courses. It should remain an optional first course, but neither it nor any other single course should be set up as *the* first course in economics.

M. BRONFENBRENNER

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The New Economic Warfare: A Reply

In the June 1942 issue of this *Review* (pp. 390-93), there appeared a review of my book, *The New Economic Warfare,* by Mr. Horst Mendershausen. I shall not discuss his critical remarks concerning economic problems, some of which suggest a not too careful reading; nor shall I deal with his surprising

objection that several topics are not covered in my small book, a series of six lectures, the scope of which was plainly stated in the Preface. Mr. Mendershausen devoted a better half of his review to some problems, more political than economic, centered mainly around the questions of the Versailles Treaty and Germany, the nazi scheme of a New Order, and post-war planning. Since they are presented rather one-sidedly, I feel that these arguments should not remain without answer.

As others have so often done, Mr. Mendershausen brings the present war in close relation to the Treaty of Versailles, considering even the nazi plan of world conquest as a logical development of the policies after the Treaty of Versailles. While it was not my task to deal with the whole post-war period, I should like to suggest an answer. We have nowadays a large literature about the origin of nazism, about the consequences of the Treaty of Versailles, and also about the nature of German aggression. No Versailles Treaty preceded the Great-German plan in 1870 and Germany's push toward the East in 1914. Many of what Mr. Mendershausen calls the "satellite states" around Germany could tell the story of the older German plans of conquest in no way connected with the Versailles Treaty.

The reviewer finds my criticism of the nazi scheme of the New Order extremely weak. He does not, however, discuss my analysis but quotes only some general conclusions separated from their context. But even such a conclusion as "a world in which the principle of legality must be made to prevail again" has definite significance to anybody who acquired some economic and political experience in post-war Europe. The reviewer finds in my book little about the problem of the compatibility of the nazi scheme with trends in the world economy. Does he mean the scheme of a big economic unit directed by Berlin? Does he mean the principle of the utmost self-sufficiency and the subordination of the economy of other nations to the needs of the German people; or does he also include in it the enslavement of other nations, exploitation and looting, resettlement of populations, and so on? Much has been written about these problems, but nobody as far as I know has examined them from the point of view of compatibility with the trends of the world economy. Before the war such a blueprint examination was perhaps possible or may have been appropriate, but once the New Order has been put in operation such a speculative analysis can not be dissociated from the events going on. For further reference I may recommend the book by Thomas Reveille, *The Spoil of Europe,* Simon Segal's *The New Order in Poland,* and perhaps my pamphlet, *Germany's Economic Conquest of Czechoslovakia.*

As regards the future program for Europe, the reviewer rejects the idea of a federation of the Danubian countries mainly because it does not provide a solution of the basic European problem which, according to him, is the problem of Germany. I wonder whether Mr. Mendershausen wants to say that only a solution satisfying the German ambitions in the Danubian valley is a real solution. Is the problem of the biggest European state, Russia, not at least as important as the problem of Germany? Besides that, do not the 120 million people of "these satellite states," living from the Baltic to the Black

Sea, have the same rights as the Germans? If Mr. Mendershausen would look at the population statistics and the estimates of population in Central and Eastern Europe 20 or 30 years from now, he might agree that those nations and Russia will achieve automatically the position belonging to them and the world will then no longer speak only of Germany as the basic European problem.

Mr. Mendershausen does not enter into a discussion of the problem of democracy and planned economy and does not accept any kind of compromise between state control and free economy. I hope that he will explain in his next book how to maintain a democratic system in a completely planned and controlled economy. I also hope that he will state in more detail what his sentence, "the fundamental economic changes of our time which form the framework of the present experiments in war economics," really means. I am sure that I will then have an opportunity to take issue with him on these various political and economic questions so vaguely sketched in his review.

Antonín Basch

Providence

BOOK REVIEWS

Economic Theory; General Works

The Theory of Prices. By ARTHUR W. MARGET. Vol. II. (New York: Prentice-Hall. 1942. Pp. xxv, 802. $6.00.)

Professor Marget continues his efforts in this, the second volume of *The Theory of Prices* "to integrate 'monetary theory,' in the narrower sense of the term, with the 'general' Theory of Value." As in the case of the first volume the structure of the argument is largely determined by the nature of the assaults of the Keynesian followers against many of the basic tenets of received doctrine. The large degree of attention that is devoted to Keynes, even though the main task is that of weaving a "comprehensive organon" between the theory of value and the theory of money, is justified on the ground of the uniqueness of the Keynesian episode, "one of the greatest . . . of the internecine controversies that have ever split the ranks of economic theorists" (p. 768). In the first place this assault against the accepted body of doctrine was delivered from within the professional fraternity and not by a scoffer at economic theory; and, secondly, none of the previous internecine conflicts "can compare in scope or consequences with the struggle inaugurated by Mr. Keynes's attack" (p. xi).

The single quotation from Keynes that more than any other provides an opening for Marget's thrusts is the following passage from the *General Theory* (p. 292): "So long as economists are concerned with what is called the Theory of Value, they have been accustomed to teach that prices are governed by the conditions of supply and demand. . . . But when they pass . . . to the Theory of Prices, we hear no more of these homely but intelligible concepts. . . ."

Any such careless generalization is of course grist for Marget who probably has no near rival in the field of knowledge of the literary development of our subject. Marget examines general value and money theory, as expounded by the acknowledged masters; first, from Aristotle to Cantillon; secondly, from Adam Smith to J. S. Mill; thence, from the revolution of the 1870's to Alfred Marshall; all in a way that must produce decided discomfiture for the Keynesians. From this study certain "lessons of doctrinal history" emerge, such as the fact that there never has been a period in which there has been any appreciable lag between developments in the general theory of value and efforts of the masters to incorporate the theory of money in the improved doctrine. Often, moreover, the results of such efforts have been decidedly unfortunate. Sometimes monetary theory has been compressed into a renegade value theory; at other times the results have been distinctly inferior to those

otherwise available; and in still other instances they have crystallized in the twin vices of "excessive formalism" and "unreasonable exclusivism" (p. 128). Then, again, the fruit may have been only the posing of purely factitious issues.

On the other hand, the work of such distinguished dissenters as Wicksell, Fisher, Schumpeter, and Hawtrey has helped to build our knowledge to a point at which we know that a special money theory is required to supplement the devices of the general theory of value. Stream equations of the Fisherian type can be amplified and modified; they cannot be displaced. Even Keynes, so Marget asserts in the last chapter, after wandering from the right path eventually regains the "high road." For when "Mr. Keynes presents an algebraic formula for 'the elasticity of prices in response to changes in the quantity of money' . . . he must be regarded as accepting the type of framework for the study of the Theory of Money and Prices which is represented by these familiar Quantity Equations . . ." (p. 741). Elsewhere a variety of passages toilfully demonstrate the utility of these equations (when properly set up and not confused with crude versions of the Quantity Theory of Money) in such problems as structural changes in the price level, equilibrium and period analysis, and the mechanics of economic continuity.

Wherein do the tools of general value theory enter into the synthesis? Elasticity of demand, in the Marshallian sense of the term, cannot be dispensed with (p. 139) if we are to explain how certain changes within the structure of prices may occur during periods of general price change. "Monetary theory" (p. 138) can *add* to the theory of the determination of relative prices . . . *it* [however] *cannot displace that theory*." Similarly, economists cannot neglect the study of individual supply schedules and their shapes (elasticities). In attempting to substitute for these concepts "an aggregate supply function for a given firm or industry," Keynes, so Marget argues (p. 544), has projected into the field of macroeconomic analysis "categories proper only to certain types of microeconomic analysis." The whole effort spells "analytical nihilism" (p. 546).

Let us agree with Marget that our ultimate goal is "the prediction of economic processes as those processes are realized in the world we know" (p. 404). What part in prediction is then to be played by stream analysis which deals with realized processes and what part by *ex ante* supply and demand schedules? Herein a series of propositions are outlined in five chapters for the purpose of determining their mutual consistency and complementary character. MV may be written formally as $\Sigma D = \Sigma pq$. It is here, however, that readers subject to the limitations of the reviewer require more help than they are provided with by the author. It is not entirely clear how we may determine for "heuristic" purposes the extent to which money payments, MV, is influenced by the particular supply and demand schedules that happen to prevail. On the other hand, the reviewer is left in a state of muddlement when he tries to determine by the use of the propositions that are presented the degree to which the individual schedules are resultants of an independently determined MV. Irving Fisher's well-known passages distinguishing between the movement of the swarm and of individual bees, and between the ripples

and the depth of the lake, are cited with approval. But these figures seem to be suggested only by observational procedure. Something more is required, it would seem, in order that the author's system may justify itself in the statistical investigations that are planned. Thus, "an analytical system of the type here outlined lends itself to statistical 'application' in much greater degree, and with much greater hope of success, than many of its rivals" (p. 505).

It is precisely at this point, I suspect, that the controversy will be the hottest. If I may be permitted to speak frankly, although I hope not roughly, I do not think anything Marget has yet done in "practical" investigations justifies his putting into the evidence his hopes of future success. Precisely the opposite might of course be conceded Keynes. Until we are face to face with specific problems we cannot know the nature of the tools we shall be obliged to apply. Often we are required to be satisfied with crude instruments. The disparaged concepts of the *multiplier* and *income velocity* (p. 476) to be sure are short cuts that do not explain much about the nature of economic processes. They merely apply inductively determined ratios to significant economic variables. It is admitted that these ratios may change for reasons hidden from view. Nevertheless, it is not impossible that much may be gained by partial analysis and by careful observation of the external conditions that accompany changes in the magnitude of these ratios. I would not want to disregard such fine work as has been achieved by Angell in the field of "multiplier analysis." It is only fair to observe, however, that Marget's disparagement specifies the "unsupplemented" use of such tools. But the question is how far supplementation must proceed. Few users of the multiplier would admit they have pulled their ratios out of a hat.

Marget himself in his chapters dealing with doctrinal history perhaps supplies a case in point. Can we say that the mere fact of the failure of certain efforts to fructify in the past in such matters as reducing money theory to the concepts of general value theory proves that such attempts must always be unsuccessful? If, however, we argue that the results of such efforts are evidence, may we not look forward to the refinement of multiplier analysis as the lessons of experience unfold? Doctrinal history must observe the same tests as any other discipline.

It is thus not quite fair to castigate as analytical nihilism prediction procedures that do not make full use of the basic tools of money and value theory. It is admitted that empiricism and induction have their limitations. But process-describing theory has its limitations also. Such theory cannot get behind utilities, but must take these as data for analysis. The economist has to assume perhaps untrue hypotheses when he draws *ex ante* supply and demand schedules. He can obtain objective data only in the form of realized processes, and the forces lying behind the factors of the exchange equation are of terrifying complexity. Although algebraic exchange equations have been in process of refinement for decades economists still cannot agree as to the ingredients of M (I should say C) for *ex ante* purposes. There is the current controversy about the inclusion of time deposits as well as about demand deposits of particular types of financial institutions. The perplexity, in short, with which Marget leaves us is that of the usability of process-revealing

analyses in situations in which the nature of the data does not lend itself to the employment of such tools.

The proof of the pudding must then rest on the success that is realized in future statistical investigations in which one or the other type of analysis is employed. In the meanwhile there is nothing to do except to tell Marget we hope he succeeds and to congratulate him on his literary achievement. Marget really deserves the title he indirectly bestows upon himself as (p. vii) a writer of "exactitude," "solidity," and "exhaustive scholarship." His work represents a type of research that is extremely rare in America. It is an education in itself to read painstakingly so well documented a volume. Congratulations are also due the author for his style unless the reader flinches before the parade of combative phrases heavily charged with lethal decoratives, such as: "the younger Mill followed both his own pernicious slogan and the equally pernicious example of Ricardo" (p. 49); "bizarre propositions with respect to the control of realized prices" (p. 589); "ludicrous misrepresentation" [of Keynes] (p. 613).

I wish economists would cease using the expression "to abstract from" (reference is not to the main text but to a quotation) in the sense of "to eliminate from the area of consideration." Could they not have it mean only "to distill out of"?

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The Politics of Mercantilism. By PHILIP W. BUCK. (New York: Holt. 1942. Pp. viii, 240. $2.00.)

Quarrelling with titles is a chronic vice of reviewers, but I must insist that this book should have been called *The Political Theories of Some British Mercantilists.* Politics implies a great deal more than political theory; it deals with the behavior of groups of people operating selfishly or altruistically through sanctioned governmental processes. This aspect of the Age of Mercantilism has long needed study, and hence I began my reading of Mr. Buck's book with great expectations. The prolegomenary chapters on the historial background and on economic doctrine are adequate. They summarize bullionistic, industrial, demographic, agricultural, sumptuary, and colonial policies judiciously. The penchant for planning, for regulation, for conducting the affairs of a nation with the authoritarian solicitude of the head of a household is quite properly emphasized.

But because mercantilist writers did emphasize this absolutistic recipe for solidarity, it does not follow that the *politics* can be explained by citing passages from mercantilist writers. Mr. Buck should, I think, have chosen a methodology appropriate to his task. If he really meant to study the politics of mercantilism, he should have looked into the history of lobbying; but of this exciting interplay, there is no mention. Indeed, studies like Miss Friis's *Alderman Cockayne's Project* are not mentioned either in text or bibliography. There is no evidence whatever that Mr. Buck intended to deal with the

politics of mercantilism, since he says quite unambiguously in the Preface that he proposes "to analyse the political doctrines of the English mercantilists."

It would be quite unnecessary to upbraid Mr. Buck further for choosing the wrong title for the book, if that were all that is wrong. But I am going to argue that Mr. Buck *should* have dealt with the politics of mercantilism in order to discuss adequately "the political doctrine of the English mercantilists." For doctrines then as now are reflections of interests, and the true nature of the pluralistic elements of the Age of Mercantilism can only be discovered by seeking the purposes which inspired their little books. In the language of Durkheim,[1] a beginning trend toward "restitutive law" is discernible in the sixteenth and seventeenth centuries; occupational segments were coalescing, becoming conscious of the possibilities of shaping legislation to their benefit. The praise of the Prince, of which Mr. Buck makes so much, was mostly flattery; while the emphasis on the harmony of interests served very frequently as the smoke screen behind which shrewd propagandists were operating. Had Mr. Buck dissipated this smoke screen with strong blasts of doubt, he would have found little harmony and less unanimity of mercantilist political intentions. For actually a violent segmentation of pamphleteer opinion is to be found; a radical theory of business enterprise is challenging the old doctrine of occupational "governance," and both radicals and conservatives are courting royal favor, hence outwardly uniting in political ideas which belied their true beliefs.

Moreover, the two major camps were each composed of muttering groups. Consequently, even the harmony in either one was deceptive. It was this factiousness which begot the demands for "stability" which Mr. Buck assumes to have been a sheer preference of all mercantilists for executive authority. And it was the extent of constitutional liberty in England which made possible the lobbying success of English business groups, with the consequent molding of legislation and administration in ways designed to promote business vitality. Herein lies a major difference between British and French mercantilism.[2] The proposals for councils of trade, which Mr. Buck calls "meager suggestions," were not so naïve as they seemed. Merchants did advise the government; indeed, governmental consultation of business men was typical. On problems of coinage, of foreign exchange, or trade depression, business opinion was not merely proffered; it was listened to, even solicited.

Out of these events came slowly the formulation of nationalist policies. More than that, these policies had pluralistic sanction, and the tracts must be viewed as a part of this process. Naïve proposals are often the first intimation of much more particularized lobbying purposes, carping diatribes very often the lamentations of a defeated bloc. Had Mr. Buck gone behind the printed assertions, I suspect he would have found a very different political theory from the one he derives from the texts alone. Moreover, if he had dealt with

[1] *On the Division of Labor in Society* (English translation, New York, 1933).

[2] See J. U. Nef, *Industry and Government in France and England, 1540-1640* (Philadelphia, 1940).

the "politics of mercantilism," his comparison of mercantilism with modern totalitarianism would have been more accurate and more instructive. For Mr. Buck realizes full well that the totalitarian tracts do not tell the whole story or even any major part; he has, therefore, gone behind the literature of flattery and of promise to totalitarian *action*. There is, however, limited utility to a comparison of British mercantilism and modern totalitarianism. For actually these two forces move in opposite directions: one was an historical force making for pluralism; the other is a resurgence of tribalism driving frantically toward an illusory monism.

E. A. J. JOHNSON

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Studies in Mathematical Economics and Econometrics in Memory of Henry Schultz. By OSCAR LANGE, FRANCIS MCINTYRE and THEODORE O. YNTEMA, editors. (Chicago: Univ. of Chicago Press. 1942. Pp. 292. $2.50.)

Back in the halcyon days when German scholars believed in the brain and not the blood as the seat of the intellect, the famous chemist Nernst remarked that the more scientific a subject becomes, the greater is its use of mathematics. Judged in the light of Nernst's criterion, many of the sixteen independent essays constituting the technical portion of the Schultz memorial volume indicate a near coming of age. Illustrative of their scope are Lange's observation that monetary theory must start with a rejection of Say's Law, Samuelson's demonstration of the inconsistency of the constancy of the marginal utility of income with utility theory, and Tinbergen's derivation of cycles from an acceleration principle for commodity stockholding. Characterized briefly, the book is a rich anthology of economic topics rather competently treated.

To descend to detail, the volume is divided into four sections: the first is devoted to an appreciation of Schultz's life and work, the second to economic theory, the third to statistics, and the fourth to econometrics. Professor Lange contributes to the theory section a significant article on Say's Law, distinguishing it at the start from Walras's Law. Walras's Law states that total money demand and total money supply—*i.e.*, the sums of the arithmetical products of the quantities of all goods (1) demanded and (2) supplied by their respective prices—are equal; Say's Law, that the total money demand for and total money supply of commodities *exclusive of money* are identically equal. Walras's Law holds invariably; Say's Law if, and only if, the demand for and supply of money are identically equal; that is, the desire to change cash balances is identically zero. Lange simplifies his economy into one containing only four representative nonmonetary commodities: "primary factors," "intermediate products," "final products," and "direct services." Terming the excess of money demand for over money supply of a commodity *excess demand* (with a parallel definition for *excess supply*), he notes, on application of Walras's Law, that the algebraic sum of the excess demands for (supplies of) the four representative commodities and cash balances is zero. Requiring

the excess demand for cash balances to be zero, Say's Law implies the cancellation of an excess supply of any of these four representative commodities by an excess demand for one or more of the others. It is in this narrow sense that the law precludes a universal productive glut in the economy. Dropping "intermediate products" as a self-eliminating entity in our calculations and recalling the definition of excess demand, we observe that, inasmuch as there are no "direct services" in a "purely capitalistic economy," Say's Law indicates the equality of the net streams of money demanded by and offered to entrepreneurs in such an economy. Say's Law is independent of Walras's Law and the number of *independent* equilibrium equations is two less than the number of commodities (inclusive of money) when it obtains. Accordingly, we may determine the prices of all but two of the commodities in terms of the price of the remaining nonmonetary commodity. It was formerly held that this remaining price could be determined from the equation of exchange. Lange brands the notion false, emphasizing that the equation of exchange is simply Say's identity in another guise and, consequently, satisfied by all values of the remaining price. He concludes with Wicksell that Say's Law implies an indeterminate velocity of money circulation and indeterminate money prices and that monetary theory must, therefore, start with a rejection of the law.

Economists habitually simplify their verbal arguments with assumptions whose consistency it is difficult to establish or confute without careful mathematical analysis. Of this sort is the Marshallian notion of the constancy of marginal utility of income which Professor Samuelson proves incompatible with general utility theory in an illuminating contribution to the second section. The marginal utility of income of an individual with a specified indifference map is a chameleonic quantity varying with the utility index used. Samuelson is therefore compelled to interpret the Marshallian notion to mean the existence of a (single) utility index for which the marginal utility of income is constant with respect to (1) prices and income, (2) prices only, or (3) all prices but one and income. The first interpretation is shown to contradict a fundamental identity in utility theory. The second is rejected because it leads to demand functions rendering the consumption of *every* commodity proportional to the individual's income, a result flatly contradicting all empirical evidence on the subject. The third gives rise to demand functions in the light of which every increase in income is spent wholly on the excluded good—again a result incompatible with available budgetary data. Finally, Samuelson examines and rejects consumers' surplus and allied concepts depending for their validity on the constancy of marginal utility of income.

Professors Tintner and Hart contribute essays on nonstatic production under conditions of subjective risk and uncertainty. Their common subject is the entrepreneur planning a production schedule for a future series of temporal points at every one of which the magnitudes of designated (uncontrollable) factors are uncertain. Single and multiple valued probability distributions of the future values of the uncontrollable factors express respectively the subjective risk and uncertainty anticipations of the entrepreneur. The reviewer sees little logical need for the distinction between subjective risk and

uncertainty; since parameters, as well as variates, are uncontrollable economic factors, multiplication of the multivalued distribution by the likelihood distribution of the parameters yields the single valued distribution of an *augmented* set of uncontrollable factors. Hart correctly points out that an entrepreneur may sacrifice a portion of his possible current profits in order to retain a flexibility of production assuring higher long-run returns.

Retracing our steps, we find Professor Jaffé opening the section under review with an essay exposing the inadequacies of Walras's theory of production. Later on, Dr. Mosak reconciles Slutzky's and Hicks's seemingly different interpretations of the so-called "fundamental equation of the theory of value." Bringing down the curtain on the theory section with an awkward piece of analysis, Dr. Bronfenbrenner derives a set of inequalities giving the direction of shift of the terms of trade between two countries that includes an earlier set by Pigou as a special case.

Professor Marschak ushers in the third section (economic statistics) with an article on economic interdependence. Among other things, he recommends the partial inversion of Tinbergen's sequence for the verification of business cycle theories: the parameters in the cycle equation, resulting from the elimination of variables from the primitive equation system, are complicated functions of the parameters in the primitive system and it is statistically simpler to estimate the former. Marschak reviews the answer given by Working and Frisch as to whether a curve fitted to series of price and quantity points represents demand or supply: the fitted curve approximates that of the two theoretical curves that has been more stable during the observation period. The essay closes with a discussion of the as yet imperfectly understood problems of lost dimensions and spurious correlation.

In another essay in the statistical section Dr. Smith enlightens us with a long and absorbing discussion on weighted regressions. Through the use of higher-order interactions in the analysis of variance, Professor Hartkemeier concludes that, although countrywide interest rates differ, they fluctuate in similar fashion about their respective levels, confirming the existence of a national money market.

Perhaps the most vital contribution to the fourth and final section on econometrics is Professor Tinbergen's on an acceleration principle for commodity stockholding. It is plausible to assume that the demand for stockholding is proportional to the rate of increase in production (imports) or consumption just as the demand for durable investment goods is assumed to be proportional to the rate of increase in production of consumers' goods. In the case of stocking proportional to consumption, any sudden jump in consumption leads to a wavelike change in imports—evidence of cyclic behavior. The assumption that stocking is proportional to imports gives rise to an endless series of import cycles even in the absence of changes in consumption. The period of the latter is two time units and Tinbergen speculates on the possibility that such import cycles are examples of crop cycles also characterized by a two-year period. His answer is in the negative since a contrary relationship subsists between price and quantity in the case of crop cycles

and data reveal the two-year fluctuations in imports not to be inversely correlated with similar price cycles.

Detailed discussion of the other contributions to the fourth section would occupy more space than this review may appropriate. Briefly, Dr. Roos discloses some of the devices that have enabled him to predict variations in general price indices with distinctly better than average success. Careful and painstaking, though pragmatic rather than rigorously scientific, his methods could be copied with advantage by some of the more flamboyant prognosticating outfits. (Strangely enough, the leads of some of his series would vanish if his enlightened devices were adopted universally.) Stressing the obstacles interposed by indifference map theory to quantification, Dr. Wallis and Dr. Friedman suggest a search for an alternative theoretical framework to facilitate empirical budgetary investigations. Mr. R. G. D. Allen contributes an analysis of the expenditure patterns of six types of families in five representative American cities. Dr. Whitman describes the analytical tools he has employed in investigating the demand for retail merchandise at Macy's department store. Finally, in an extended article, Professor Dean presents a few of the results of his study on department store cost functions.

Warm and sympathetic accounts of the life and work of Professor Schultz are given by Professors Link, Yntema, and Roy in the initial section. Thought of Dr. Link's poetic story recalls the words that Shakespeare put into the mouth of Queen Katharine when, sick and weary of her earthly turmoil, she listened patiently to Griffith's defense of Wolsey's character:

> After my death I wish no other herald,
> No other speaker of my living actions,
> To keep mine honor from corruption,
> But such an honest chronicler as Griffith.

LOUIS M. COURT

New York

Introduction to Social Science: A Survey of Social Problems. By G. C. ATTEBERRY, J. L. AUBLE and E. F. HUNT. Vols. I and II. (New York: Macmillan. 1941-42. Pp. 668; 800. $3.00; $4.00.)

This two-volume work of almost 1,500 pages is intended as an introductory text for a general course in the social sciences on a collegiate level. The materials are organized in four parts: Basic Factors in Social Problems; Social Relations and Social Problems; the Competitive System and Social Problems; Government and Social Problems. As these subdivisions suggest, the authors have selected materials from three social sciences—sociology, economics and government. In sum, there are forty-nine chapters, each with frequent subheadings, a selected list of "terms to be understood," "questions for discussion," and a selected bibliography.

Attention should be called to the legible type, the good illustrations, and the well-constructed tables and graphs. The style, although somewhat self-conscious because of the author's efforts to communicate with the American

collegian on his own terms, is distinctly readable. So much for form; what of plan and execution?

Louis Wirth points out in his Foreword that the authors seek to substitute the problem approach for abstract patterns of analysis and to stress the common elements which bind the social sciences together, rather than to deal with each discipline as a separable subject.

This is the authors' plan; but like many plans it is breached almost as frequently as it is observed. The "problem approach" is really a misnomer, for the chapters are not constructed around contemporary problems such as war, unemployment, occupational stratification, inequalities in income, monopoly. The following are a few of the authors' chapter headings: Housing, Education, The Family, Agriculture, Political Parties. There is much interesting material in these chapters. Facts and figures in large quantities, usually of good quality, have been pulled together from a variety of sources and have been condensed into usable form for discussion. But it is the facts and the figures which are discussed, not the problems.

If the authors fail substantially to carry out their first objective of a "problem approach," their lack of success is even more noticeable in seeking to treat the several social sciences in an integrated fashion. A sequential ordering of conventional chapters on sociology, economics and government does not insure integration, in fact, does not even approach it.

It is easy to find fault with this text. On a competitive basis it ranks high. But no text can be fairly assessed unless one comes to grips with the fundamental question of the alternative opportunities open to teachers of the social sciences in introducing their subjects to college students.

What are the real alternatives? Either an "introduction to social science" or an introduction to *one* of the social sciences. If the authors had carried through their plan of an integrated approach to the social sciences through the use of the problem approach, nobody could find fault. Surely it is better for students to have a broad, rather than a restricted knowledge of the social sciences; and it is certainly desirable that their thinking be focused on real problems rather than on abstract theories of human behavior.

But the authors offer the student only a large number of discrete facts in attractive dress. In the few instances where the authors pursue the analysis of a complicated set of variables (*i.e.*, money, pricing policy), their treatment is too condensed to be serviceable. Hence alternative approaches must be evaluated.

A course in economic, social or political theory leaves much to be desired, for, as every teacher knows, the student is likely to mistake abstract formulations for descriptions of reality. But a theoretical course has something to be said for it, since it introduces the student to a specific technique of analysis which enables him to dig below the surface. The fact that he soon learns that he cannot dig very deeply is also an important lesson.

Atteberry *et al.* do two jobs well: they present many facts and figures about important contemporary institutions that should be at the command of every educated citizen; and they discuss these facts in a stimulating manner. Hence

the work should find favor in adult educational classes and in finishing schools. But it is inadequate for the training of college students.

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Economic History

The Social and Economic History of the Hellenistic World. By MICHAEL ROSTOVTZEFF. 3 vols. (New York: Oxford Univ. Press. 1941. Pp. xxxii, 1779. $30.)

It is not long since the Hellenistic Age ceased to be the stepchild of ancient historians. Droysen's pioneer work, *Die Geschichte des Hellenismus* was, it is true, published as far back as 1836-43 and the last decades of the nineteenth century saw more and more attention being given to Greek history after the death of Alexander the Great. Yet your reviewer can remember that at his school the period was ignored; while in the university one read Theocritus, the *Argonautica,* and Herondas, then a very recent discovery. One might even dip into one or more of Mahaffy's books; but, in the main, Hellenistic history, save those political aspects which were closely related to the history of Rome, remained a closed book. Nowadays even the briefest sketch of Greek history or civilization will include some account of those long-neglected centuries. The reasons for this changed outlook are well known. Many ancient sites have now been partly or wholly excavated on scientific lines and have yielded a rich harvest of archaeological material. Innumerable inscriptions of most varied content and importance have been recovered and published, while Egypt has rendered up thousands of papyri which have revolutionized our knowledge of that country under the rule of the Ptolemies.

But there is another side to the picture. Abundant as is the available material, it can never make up wholly for the loss of most of the formal histories written in the Hellenistic period. The archaeological remains and inscriptions are scattered over a wide area; material may be abundant for some regions and extremely scanty for others; it may also be abundant for one period of time and virtually nonexistent for another. In Egypt, too, the wealth of papyri has raised almost as many problems as it has solved, and their distribution in time is uneven, so that there is, for instance, much fuller information about the economic organization and life of that country in the third century B.C. than in the second. Finally, many of the excavated sites continued to be inhabited for centuries after Rome had gained control over the whole eastern Mediterranean, and usually the evidence for the Roman Imperial Age is far more ample and far better preserved than the Hellenistic material. We see this very clearly when we try to reconstruct the trade-routes and to estimate the volume of traffic between the countries bordering on the Mediterranean and the Middle and Far East. The story of Hellenistic trade has been to a great extent obliterated by the better attested story of Roman commerce;

and to argue back from the later period to the earlier is always hazardous and sometimes positively wrong.

The publication of Professor Rostovtzeff's long-awaited work is an event of the first importance. These three finely printed and magnificently illustrated volumes are the fruit of many years of laborious study, involving all the ancient evidence and a vast modern literature as well, to which he himself has from time to time made notable contributions. Not without justice he criticizes earlier attempts to reconstruct the economic history of the Hellenistic Age for treating the whole period as a single whole; for, as he points out, what is true of Egypt or the Seleucid Empire in the third century is not necessarily so for the second or the first. He has therefore divided his subject into several broad periods and has sought to define and illustrate the peculiar character of each in the various countries concerned. The only drawback to this method is that it leads to a good deal of repetition; and even Mr. Rostovtzeff, though he warns against the danger of the practice, cannot always avoid using the evidence from one period to fill up gaps in our knowledge of another.

He begins by tracing briefly the political history of the Greek world from 323 to 30 B.C. and also gives his readers a useful *aperçu* of the ancient sources from 323 to 301, from 301 to 221, and from 221 onwards. Chapter II also is still of an introductory character and sketches the economic organization of the Persian empire and the Greek city-states in the fourth century. He stresses certain broad factors, such as the extensive trade relations between Persia and parts of Greece, and the dependence of European Greece on other regions both for food and for raw materials; he also shows the growth of economic independence which characterized the western Greeks at this time, as well as outlying areas like Thrace and South Russia. He concludes (p. 125) that the foreign commerce of Greece, "which defrayed the cost of its imported foodstuffs and raw materials, gradually declined and there was no hope of restoring the balance."

With chapter III, which covers the years from 323 to 281, the main subject of the book begins. The author discusses the policy of Alexander's successors within their own kingdoms and toward their Greek allies and subjects, the influence of the "wandering" armies on the economic and social life of the civil population, and the coinage. Chapter IV, which extends over nearly 400 pages and chronologically deals with the period from 281 to 221, is divided into three sections—Greece and the islands, the major monarchies (*i.e.*, Macedonia, Egypt, and the Seleucid empire), and the minor monarchies. This chapter in a sense forms the very heart and marrow of the book, covering as it does what was by all odds the most prosperous part of the Hellenistic Age. A clear indication of how unevenly the surviving evidence is distributed is the fact that, while 167 pages are devoted to Egypt and 120 to the realm of the Seleucids, 4 suffice for Macedonia! The material for the Greek cities also is tantalizing, being relatively full only for a few—Delos, Delphi, Athens, and certain islands, especially Rhodes. The author, unlike other recent writers, both here and later minimizes the effect of various institutions tending to

make war more humane and its results less catastrophic than in the Classical Age. Conversely, he lays great, indeed exaggerated, emphasis on the extent of piracy and generally on the insecurity of life during these decades.

The section on Egypt under the first three Ptolemies is perhaps the most brilliant passage in the book. It describes the most complete, and for a time the most successful, planned economy of the ancient world, embracing alike agriculture, manufactures, and commerce. Even for Egypt it is still impossible to define with certainty every aspect of economic life. But, as the author points out, on the available evidence one can say that there was no branch of production which was not to some extent at least under royal control. The aim of the kings was to make Egypt and their overseas possessions, which at this date were considerable, as far as possible self-sufficient and also to secure a favorable balance in international trade and "thereby to secure a good influx of gold and silver from abroad." There are, on the other hand, many uncertainties. What was the population of Egypt, or indeed of any larger area in the Hellenistic world? What was the exact status of the foreign population in Egypt, which was so vastly important for carrying on the work of government, as well as in industry and commerce? How did Egypt pay for her considerable imports from the South? And what was the balance of trade between Egypt and Greece? Certainly, in spite of high tariffs, much was imported into Egypt from various areas, both essential raw materials, like metals, and nonessential goods for which the well-to-do were prepared to pay highly. Mr. Rostovtzeff, who offers at least a partial answer to most of these controversial questions, also very properly warns against the danger of drawing general conclusions from prices mentioned in papyri, since there was no standard measurement in use but the size of the *artaba* varied. Even so, one may mention in passing, weights and measures in modern India vary from district to district.

Information about Egypt is ample and detailed when compared with what is known about the Seleucid empire at the same date. Its rulers had a far less homogeneous territory to administer and, as the third century progressed, they steadily lost ground in the eastern parts of their dominions. They were also constantly at war with Egypt, and this circumstance Mr. Rostovtzeff would attribute in part to economic causes. He argues cogently for a rivalry between the two empires for the effective control through their respective territories of the trade from the Far East. It is certainly significant that the Ptolemaic currency, struck on the Phoenician standard, was seemingly excluded from the Seleucid empire, and that in Egypt and her dependencies no coins of Attic standard, which had been adopted by Alexander and continued by his successors in Asia, have been found. Still, after examining all the available data, the author is forced to admit that very little is known about the general fiscal policy of the Seleucids and he thus summarizes his conclusions (p. 517): "The principal achievements of Seleucid policy were these: the establishment of a uniform administration, the introduction of a systematic and, as far as possible, uniform taxation, the formation of a well organized royal army and navy, the construction and maintenance of a network of good

roads between the various satrapies, the adoption of measures designed to provide a single abundant and trustworthy currency, a certain control of weights and measures, and, finally, the introduction of a uniform dating (the Seleucid era) and calendar, which were not only valid within the empire but were adopted by many of its neighbours and are still in use in some parts of the Near East." The last section of this chapter surveys conditions so far as known in Pergamum, Bithynia, Galatia, Pontus, the communities on the Black Sea, and the Bosporan kingdom.

The three chapters that follow (V-VII) deal in a similar regional way with the periods from 221 to 168, from 168 to *c.*88, and from 88 to 30 B.C. The first of these was on the whole an age of depression and poverty in European Greece, even though the author's picture seems too lurid and overdrawn and the remarks of Polybius on the Greek passion for show, money, and a life of ease (*cf.* p. 624) smack too much of the philosophical schools to be valuable as evidence. The Greek cities of Asia Minor, however, were in spite of heavy taxation prosperous, while Rhodes during these fifty years reached the zenith of her political power and economic influence in the Near East. The power of the Seleucids suffered a marked decline which was only temporarily arrested by Antiochus III and there was a corresponding growth in the political and economic importance of Pergamum. One of Mr. Rostovtzeff's most interesting suggestions, based primarily on a study of extant coin-hoards, is the existence of a kind of economic *entente cordiale* between the Seleucids and the Attalids at this time (*cf.* pp. 656-57). His arguments for continued great prosperity in the Seleucid kingdom after Antiochus III's defeat by Rome and even under his two successors are far less convincing. I should myself hesitate to have much faith in Athenaeus's stories of royal magnificence; nor does great building activity on the part of kings prove general prosperity in their realms. At that rate the ages of Septimius Severus and of Diocletian could also be interpreted as times of rude plenty.

In Egypt this period marked the beginning of a steady economic decline which its rulers tried to arrest in various ways. Riots and even civil war caused a fall in revenues, and the difficulty of collecting taxes and arrears led to harsh compulsory measures and their attendant evils. Finally concessions were made, the main purpose of which was "the emancipation of private initiative from the heavy burden of state control"; in other words, a system which had worked efficiently during a large part of the third century, when Egypt controlled extensive areas outside Egypt, broke down badly when most of that extra-Egyptian territory was lost. A significant innovation, to which Mr. Rostovtzeff gives considerable attention, although its full purpose and effects are far from clear, is found in the matter of currency. The early Ptolemies, like other Hellenistic rulers, had operated on a bimetallic system. In the late third century, according to our author and others, this was changed to a trimetallic system, since the heavy copper coinage that was now increasingly used was not token money but represented its value in metal. Egypt also provides the only example of a serious currency inflation in the Hellenistic

Age. This has quite recently been investigated afresh by A. Segrè,[1] who is sceptical about the real metallic value of the earlier copper coins but concludes that three types of drachma, one of silver and two of copper, were distinguished by the rulers of Egypt.

Brief mention must suffice for chapters VI and VII which tell the story of, first, the growing, and then the complete, domination of the eastern Mediterranean by Rome, a story which for that very reason is more familiar, at least in outline, to most readers. Again political changes brought drastic economic changes in their train—the partial decline of Rhodes and of Pergamum simultaneously with a general recovery in parts of Greece and especially in Athens, and the emergence of Delos as a leading emporium. Finally, there is the depressing tale of Rome's wars with Mithridates and her ruthless exploitation of the Near East in the first century.

The author ends his work with an eighth chapter of nearly two hundred pages, entitled Summary and Epilogue, which brings Volume II to a close. Readers who are not specialists in ancient history may do well to peruse this chapter before studying the rest of the book, which is not easy to read or to assimilate. Primarily this is due to the often intractable nature of the evidence, but at times one also feels that even the learned author is partially submerged by the mass of material which he is handling. There are, for example, avoidable repetitions. Was it necessary to devote two pages (74-75) to the pseudo-Aristotelian *Oeconomica,* which are fully discussed on pages 440-46? Such repetitions are not infrequent and sometimes extend even to individual sentences (*cf.* pp. 340 and 344). Again, the author, perhaps because his work was being composed over a long period, is not always consistent in his conclusions; nor are his data always fully coördinated, as the following instance will show. On page 242 he says of a medical tax (*iatrikon*) recorded in Cos that "it was probably a personal tax paid by the inhabitants of Cos for the maintenance of the public health service (hardly a tax paid by the doctors). On page 1092 he refers to the *iatrikon* in Egypt and remarks, "the tax has the same name as that levied in the Greek cities to finance the public medical service, and it could hardly have had another meaning in Egypt." But he has nowhere given any authority for the assertion that a public medical service was a regular feature in Greek cities, nor does he mention the most unequivocal evidence for the nature of the *iatrikon.* A Delphic inscription (*S.I.G.*[3] 437) of the early third century records that one Philistion, a metic, received exemption from a liturgy (the *choragia*) and the *iatrikon.* Even so the assumption that a medical service was a usual institution in the city-states is unwarranted. In the third place Mr. Rostovtzeff is sometimes very diffuse and pauses to discuss topics but remotely connected with the real subject of the book. A good example of this weakness will be found on pages 430 to 440.

The third volume is made up of nearly 350 pages of notes which provide ample references to the ancient sources and to the modern literature; they also contain a good deal of discussion of controversial matters. There follow

[1] *Am. Jour. Philol.,* Vol. 63 (1942), pp. 174-92.

four short excursuses on special topics by J. G. Milne, R. P. Blake, E. S. G. Robinson, and F. O. Waage, and two elaborate indexes. The notes are of the utmost value—indeed, they will be indispensable to any future investigator—but they also show certain unsatisfactory features. The author has a weakness for accumulating references which are superfluous, both in the occasional notes at the foot of the text and in the body of annotations in Volume III. Thus, the allusion to *O.G.I.* 10 is appropriate in connection with the text on page 463; it is pointless in note 42 on page 173. Again, on page 610 we learn that Rhodes and Eumenes II entered into close relations with Crete in order to check piracy, the authority for this being *S.I.G.*^{3} 581 and 627. The former, a treaty between Rhodes and Hierapytna containing an antipiracy clause, is wholly to the point; but the other, an agreement between Eumenes and all the Cretan cities save one, is very fragmentary, and what survives is insufficient to support Mr. Rostovtzeff's inference. The same modern work is referred to again and again, and often eight or ten books are listed, half of which have no independent value because they merely repeat what is to be found in the others. Judicious selection would have made much of Volume III far more serviceable to the student. The author is not always critical in his selections. Suhr's monograph is neither accurate nor original (*cf.* pp. 28 and 34), while Stanley Casson's book on Cyprus is so bad in the earlier parts (*cf.* Gjerstadt's devastating review in *Jour. Hell. Stud.*, Vol. 59 [1939], pp. 142 *ff.*) that no wise reader will trust any portion of it. There was no need to refer to Jaeger's book on page 1321 or to Bilabel's article on page 1451, which is concerned only with the Roman period. Mr. Rostovtzeff's astonishing erudition will be patent to every reader of his book; it was unnecessary to parade his bibliographical knowledge at the cost of clarity and serviceableness.

A few doubts on general questions or criticisms of details may here find a place. On page 89 we read, "we know that in the fourth century Syria and Cyprus supplied Athens with grain." The author gives no references to the ancient authorities, for his note (p. 1326, n. 19) only indicates some archaeological evidence for general trade relations between Athens and Syria. There is in fact very little basis for the statement. The statement (p. 183; *cf.* p. 189) that Alexander's empire remained a political unit for about fifty years is to me utterly incomprehensible, since any such unity had disappeared at latest after the death of Antigonus I in 301. Even stranger, indeed positively wrong, is the assertion (pp. 530 and 533) that the Syrian Wars between the Seleucids and the Ptolemies were mainly fought in Asia Minor. The truth is that only in the second was Asia Minor the main scene of operations. On page 481 the author hazards the suggestion that the 10,000 *cleroi* owned by Syrian Antioch in the time of Julian the Apostate may "have been an inheritance of the remote past," that is, may have already been a part of that city in early Seleucid times. Even in the unchanging East such a survival through 600 years is more than unlikely; and Mr. Rostovtzeff himself knows better. On page 499, writing about Apamea, he points out that the cities of Seleucid Syria never ceased growing, and therefore it must be assumed that Apamea was smaller in the third century than in A.D. 6-7, when its population was 117,000.

He makes full use of Josephus and pseudo-Aristeas for economic conditions in Palestine, but strangely enough ignores the invaluable testimony of Sirach (Ecclesiasticus) 38, 24-34. This passage is interesting in two ways: it portrays vividly the daily work of the peasant, the signet engraver, the smith, and the potter, and it contrasts these manual workers with the superior caste of scribes. "All these are deft with their hands, and each is wise in his handiwork. Without them a city cannot be inhabited, and wherever they dwell they linger not. But they shall not be inquired of for public counsel, and in the assembly they enjoy no precedence. On the seat of the judge they do not sit, and law and justice they understand not. They do not expound the instruction of wisdom, nor understand the proverbs of the wise; but they understand the work they have wrought, and their thought is on the practice of their craft." Then Sirach describes the ideal scribe, "who serveth among great men and appeareth before princes."

On page 777 we are told that the Rhodians in 163 were confirmed in their rights to private property situated in the former Rhodian dominions on the mainland, and Polybius 31, 4 is cited in proof of this statement. But Polybius relates that the Rhodians made two requests to the Roman senate: (1) that they should be allowed to recover Calynda; and (2) that Rhodians who had owned property in Lycia and Caria be permitted to enjoy that property as formerly (*i.e.*, before 168). A little later Polybius says briefly that the senate confirmed to Rhodes the possession of Calynda but there is not a word about the other request; the natural inference is that the senate rejected it. Mr. Rostovtzeff (p. 927 *ff.*) accepts the conclusions of Otto and Bengtson regarding the date of Hippalus, discoverer of the monsoons in the Indian ocean. Ordinarily I distrust the *argumentum ex silentio* as much as the author, but in this case I find Strabo's silence inexplicable. Strabo had a keen interest in exploration and explorers, many of whom he mentions. Is it likely that he would ignore Hippalus, if the discovery had been made before Strabo's time? Besides, as Tarn has pointed out,[2] Otto and Bengtson's theory involves the outright rejection of the Elder Pliny's explicit statement that the discovery was made in or near his lifetime (*nunc*).

The author's observation that anti-Roman sentiments in the Greek world of the first century reach us "only very faintly" (p. 933) is an understatement, as has been shown by Harald Fuchs in his monograph, *Der geistige Widerstand gegen Rom in der antiken Welt* (Berlin, 1938), notes 42 and 43 on pages 43-44. Of Rome's "colonial" government in the first century Mr. Rostovtzeff remarks: "Such a government may be sometimes just and efficient, but it is always arrogant, arbitrary, selfish, and often ruthless and cruel." There is here a contradiction: If a government is just, it cannot according to any reasonable use of words be arbitrary. The truth is that the author's own political bias sometimes affects his historical judgment. We see this in his observations on the lower classes and wise aristocrats (pp. 611-12), but the most striking instance occurs in his analysis (pp. 1115-34) of the bourgeoisie and the politically and socially less prominent "proletariat" in the Greek cities. The extreme

[2] *Jour. Hell. Stud.*, Vol. 59 (1939), p. 324.

contrast between them drawn by our author seems to me to go far beyond either the existing evidence or historical probability. Cicero's reference (see p. 1526, n. 92) to *sutores* and *zonarii* does not testify to the importance of the textile, but to that of the leather industry in Pergamum. Mr. Rostovtzeff confuses *sutor* (cobbler) with *sartor* (tailor), and the belts made by the *zonarii* were certainly of leather, not of wool or linen. Finally, I have noted a number of places in the annotations where Mr. Rostovtzeff's criticism of others not only lacks urbanity but is positively unfair. One example must suffice. On page 1534, note 126, he refers to two inscriptions and continues: "None of these documents nor the autonomy of Tyre are mentioned in the book by W. B. Fleming, *The History of Tyre*, 1915, pp. 65 *ff*." But the two inscriptions were first published in 1918 and 1925 respectively!

Once or twice in a generation a book on some large topic appears and immediately becomes a standard work. It will be criticized and, as time passes and fresh evidence accumulates, it will be corrected on this point and on that, but its basic value will endure for many years. Such was Mommsen's *Römisches Stattsrecht* or the late T. F. Tout's book on administration in medieval England. Such, if I am not mistaken, is Mr. Rostovtzeff's latest and greatest work.

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The Tennessee Yeomen, 1840-1860. By BLANCHE HENRY CLARK. Nashville: Vanderbilt Univ. Press. 1942. Pp. xxiv, 200.)

This excellent little study of Tennessee farmers is one of a series planned by Dr. F. L. Owsley of Vanderbilt University. Studies which cover the late ante-bellum period in Alabama, Mississippi, Louisiana, North Carolina, South Carolina, and Georgia have been finished or are in progress. That they may reach the high plane of research set by Dr. Clark should be the hope of all historians.

Southern society previous to 1860 consisted of more than three classes: slaveholding planters, poor whites, and slaves. It contained, contrary to the belief of many people, a large group of middle-class farmers who did not own slaves. In East Tennessee in some counties more than nine-tenths of the heads of families were nonslaveholders, whereas in West Tennessee, among the cotton planters, the proportion descended to about one-third. The percentage in the counties studied by Dr. Clark varied from 93.32 in Fentress County in 1860 to 34.40 in Fayette County. In 1850 about 65 per cent of all heads of farming families owned their land, but in 1860, the percentage approximated 70. In eighteen counties, chosen as representative of the commonly accepted divisions of East Tennessee, Middle Tennessee, and West Tennessee, about two-thirds of the heads of land-owning families were nonslaveholders, and the tendency was to increase.

Of course, Dr. Clark used the published census reports in her research work, but she also used manuscript census schedules, an uncommon procedure.

She used Schedule IV, "Productions of Agriculture," for 1850 and 1860, in the original, the bound volumes having been borrowed from Duke University. From this schedule she developed master charts which included people in the counties studied, their land holdings, livestock, agricultural implements, and farm products. She examined on a projector in the Vanderbilt University Library Schedule I, "An Enumeration of Free Inhabitants," and Schedule II, "An Enumeration of Slave Population," for 1850 and 1860 in the microphotographic form supplied by the Department of Commerce. To her master charts based on Schedule IV she added more information: the number of slaves held by each owner, the number of slave houses, the number of farm laborers living within the family, the literacy or illiteracy of the head of the family, other occupations followed by the farmers, and in some cases the place of nativity for the head of the family. The separation of slaveholders and nonslaveholders was possible by checking Schedule IV with Schedule II. Dr. Clark's monograph emphasizes especially the nonslaveholders in the counties studied.

The discrepancies found in the schedules, omissions, occasional illegibility, carelessness, and ignorance on the part of enumerators increased the stupendous difficulty of Dr. Clark's task. As an example of ignorance she quotes one enumerator: "F. F. Cooper no. shoudl ha Bin at 20 But Threw mistake it was left ought and put at 26." Dr. Clark's judgment, however, seems to have been sound, and although absolute accuracy was impossible, her conclusions seem to be valid.

To be sure, she could not study every farmer in Tennessee. She divided the counties of the state into groups based upon the proportion of slaveholders and nonslaveholders contained. She then made comparisons and contrasts of the agricultural life of the farmers in counties in which nonslaveholders were in the majority and in counties in which they were in the minority. She selected 18 counties as the basis for the consideration of land tenure and cultivated acreage. For more detailed study she selected 10 counties representing East, Middle, and West Tennessee. She divided slaveholders and nonslaveholders into the landless and landholding groups. She classified landholders in 9 groups according to the acres held, varying from 1 to 50 acres to the comparatively few holders of more than 5000 acres. She also made some comparisons between slaveholders and nonslaveholders. She applied the conclusions concerning the 10 sampled counties to the entire state. She likewise sampled 15 slaveholders and 15 nonslaveholders in each land group for each county. She studied these pairs from numerous angles and insured accuracy through the accepted mechanical devices.

A reader can realize only a little of the careful labor required by the use of the unpublished census reports. Yet Dr. Clark also employed other materials. She used both state and local records. The State Comptroller's reports gave information concerning cultivated acreage, average value per acre, and amount and kind of personal property taxable in each county. County tax records listed individuals and taxable property, thus making possible the distinction between slaveholders and nonslaveholders. Records of inventories and wills gave some insight into standards of living. Newspapers and magazines, espe-

cially the agricultural press, supplied information on the changes in progress. Travel books, discriminatingly used, also furnished insight into the life of the period. General memoirs likewise contributed to Dr. Clark's work. The author, furthermore, cautiously used answers to a questionnaire prepared by the late John Trotwood Moore, former Tennessee State Librarian, and sent to all Civil War veterans in that state with the idea of obtaining material for a social history.

This extensive comment on methods and sources is intended to show that the book under review is the product of much laborious and discriminating research and careful judgment. The work contains three maps, thirteen tables, eighteen appendices, more than three hundred footnotes, an extensive and somewhat critical bibliography and an analytical index. Seldom does a typographical error or an unsubstantiated statement appear. The maps are rather difficult to read because of the smallness of the lettering, and proportion in discussion may not always be observed. For instance, the discussion of silk is given too much attention if value is to be the criterion but the proper amount if the probable interest of the reader is considered. On the whole, the book is an outstanding example of patient and discriminating economic and historical research.

Chapter I is entitled "The Status of the Non-Slaveholding Farmer in Tennessee." Dr. Clark comments on the large group not classifiable as rich slaveholders or "poor whites" and proves that social distinctions were of an economic nature and not determined by slave ownership, and that groups of the same economic status mingled freely.

Chapter II is entitled, "The Tennessee Farmer and His Landholdings." The largest group of farmers in Tennessee cultivated 50 acres or less. That group totaled 53 per cent in 1850 and 46 per cent in 1860. In East Tennessee in 1860 about three-fourths fell in this group, in Middle Tennessee about one-half and in West Tennessee about one-fourth. The slaveholders invariably farmed the larger acreages in Middle and West Tennessee, and the size of their holdings tended to increase between 1850 and 1860. Nonslaveholding predominated where land values were lowest. The census figures do not bear out the statement that nonslaveholders were pushed off the good lands, but the better lands, Dr. Clark admits, may have been usurped by slaveholders.

Chapter III, "Agricultural Organizations in Tennessee," gives an interesting discussion of agricultural education. Naturally Dr. Clark places most emphasis on organizations and fairs, but she also discusses agricultural periodicals and schools. Leaders came largely from the ranks of the wealthy landholders who were the slaveholders, but Dr. Clark regards the leadership as unselfish and the dues of the county societies, often $1.00 yearly, as not prohibitive to the yeomen. "If they failed to profit thereby," she concludes, "it was due to their own negligence."

Chapter IV, "The Agricultural Awakening in Tennessee," discusses the early emphasis on such money crops as cotton and tobacco, the beginning of the agricultural reforms, livestock husbandry, the improvement of farm implements and silk culture. She notes, nonetheless, that more than one-half of the counties

failed to organize agricultural societies, that periodicals enjoyed only a brief existence, that agricultural schools came and went, and that soil-depleting crops continued. Yet, as she observes, some of the cotton and tobacco counties continued prosperous.

The last chapter, "Agricultural Production," emphasizes cotton and tobacco in West Tennessee and notes the decline in tobacco and rice. The agitation for diversification affected West Tennessee little. No marked difference existed between the slaveholder and the nonslaveholder of approximately equal acreage. The same statement will hold true of Middle Tennessee, but in most cases the slaveholders slightly outranked the nonslaveholders in average value of land, stock, and implements, at least in 1850. In East Tennessee also the slaveholder had more unimproved land and greater land value than the nonslaveholder who cultivated the same number of acres. Owning of slaves, Dr. Clark thinks, did not make the owner more prosperous. He could buy a few slaves because "he was a bit more prosperous." In agricultural changes in the entire state, she holds, the nonslaveholders had "the same share that any farming group would have had," and made the same proportionate advance as the slaveholders made. She concludes her judicious and well-balanced discussion with this sentence: "In West Tennessee only was there any evidence of a widening gap, while in Middle Tennessee and East Tennessee the nonslaveholder retained his place or advanced nearer parity with his slaveholding neighbor."

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The Economic Development of the American Nation. By R. C. MCGRANE. (Boston: Ginn. 1942. Pp. xii, 691. $3.75.)

This book is described with fair accuracy as a "straightforward account of the economic influences on our nation life." Designed as a text for college undergraduates, it has three claims to distinctiveness: (1) arrangement of 31 chapters in more strictly chronological sequence than is the rule; (2) emphasis upon cyclical fluctuations throughout the course of American history; and (3) insertion of fresh illustrative material, particularly contemporary cartoons depicting important economic events or tendencies.

Actually, Professor McGrane has hit upon a compromise between chronological and topical arrangement which is not greatly different from that reached by other writers. It is only in the last six chapters—those covering the twentieth century—that time sequence is the rule. On the whole, the familiar classification into major periods or epochs could be inserted without any adjustment. Furthermore, the author has in numerous instances assembled in one place data which followed trends of comparatively long duration. This fortunate device, though it involves repetition, helps to knit the book together. However, there still remains a certain degree of disjointedness: *e.g.*, the reader will find colonial "media of exchange" and "paper money" discussed in different places; and the same is true of colonial commerce and the Navigation acts. between which a complete chapter intervenes.

The emphasis upon business cycles is likely to appeal to historically-minded economists. Six chapters are devoted wholly or in large part to various panics between 1819 and 1907; and several cartoons illustrate the attitude of the man in the street at these critical junctures. Unfortunately, financial crises receive primary attention; and there is a recurrent tendency to treat isolated events as "causes" or "effects" of each panic. Other phases of the early cycles, particularly the depressions, are submerged in the text. On the other hand, an entire chapter is well spent upon "The Great Depression." This is not inconsistent with Colonel Ayres's oft-cited opinion that the most recent depression was "far more severe than any of the twenty major depressions that we have experienced in this country since 1790." However, the reader wonders whether the farmers, manufacturers, and wage-earners who suffered through the years 1819-23, 1839-43, or 1893-97 (to name a few) would agree with this dictum.

The general scope is broad enough to include a chapter on "Adventures in Imperialism" which presents an excellent summary of our relations with Latin America during the present century. Both the discussion and illustrations dealing with technological advance, moreover, go considerably further than is customary in books of this kind. Compared with earlier texts, a more penetrating account is offered of conditions in the United States between 1914 and 1917, which is of special interest at the present time. The last chapter ("The New Deal") gives a judicious and compact appraisal of the Roosevelt Administration and carries the narrative up through Pearl Harbor.

Teachers who like to "quarrel with the text" will welcome McGrane. Although the book is authoritative for most part, it is not free from passages which are open to amplification, qualification, or correction. One notes a strain of Marxist pessimism or depression psychology in the treatment of the epochs 1834-37 and 1922-29 which is revealed by the frequent use of such terms as "apparent," "illusory," or "so-called prosperity." These naïve catchwords are belied by the evidence in the book itself as to the behavior of employment, wages, and production. It is true that the prosperity in each case was impermanent and overcapitalized, and affected some regions or industries to a smaller extent than others. This has been characteristic of all prosperous eras; but it has been equally characteristic of the depressions which came along later.

The discussion of the crises of the 1830's leaves much to be desired. Economists will note that the analysis of foreign trade for the years 1830-37 concludes with a lament that "in the face of this unfavorable balance of trade, large debts were incurred abroad." Again, the increased sale of lands is ascribed to a bank expansion which, in turn, is traced to Jackson's veto of the bill to recharter the Second Bank of the United States. Is it not true that the sale of lands had been steadily increasing long before the veto, and that the bank itself expanded credit to a great degree after that event? It would seem that agricultural price trends and the westward tide of immigrants and fresh capital should have received more emphasis at this point. As for 1839 and later years, it appears that the suspension of specie payments throughout the West is overlooked. It was only in New England and New York that the banks were

able to pay coin throughout the miserable interval between the autumn of 1839 and the spring of 1842.

On various detailed points of fact and interpretation, this reviewer would raise queries. For example, he is not familiar with authorities who state that the introduction of sea-island cotton was the first factor in the revival of interest in slave labor on the part of southern planters after the Revolutionary War (p. 292); and he does not understand the statement (p. 529) that the sinking of the *Lusitania* and the *Sussex* "materially improved the cause of the Allies by raising the issue of 'property rights' versus 'human rights.'" He prefers "Lochner" to "Lockner" (p. 439) and "Benner" to "Brenner" (p. 361). Contemporary writers invariably allude to Henry Shreve's first flat-bottomed steamboat as the *Washington* (p. 183). The map of 1840 (p. 187) shows the Wabash and Erie Canal and the Miami Canal Extension in use at an earlier date than those given by other authorities; and both the map on page 331 and the accompanying discussion are vague on the federal land grants to the Southern Pacific and the Texas Pacific. One other detail is perhaps worthy of mention: the propensity to mention commodity prices without reference to the markets in which they were quoted. This procedure, which is probably dictated by exigencies of space, is regrettable in view of wide regional differences, particularly before the Civil War. Historians have long treated prices in cavalier fashion: only in this way can we explain a quotation of $60 a barrel for flour in 1818 (p. 173), and the shift of complaints in the West during the extreme depression of 1821 back to the year 1819—a year of high prices in the interior (p. 175).

Professor McGrane has apparently adopted a "middle-of-the-road" position with respect to events of the past decade; but his general attitude is several shades more conservative toward similar efforts exerted for recovery in the eighteenth and nineteenth centuries. Thus, the terms "sound" and "unsound" are frequently employed in connection with early money, public debt, or agricultural relief. To quote from the Preface: "There are many incidents in the past history of the United States which bear a striking resemblance to those of more recent years. . . . Frequently in the past the American people have enjoyed years of great prosperity, and then, in the subsequent years of depression, they have paid dearly for the follies of overoptimism; and during these periods of distress and hardship prophets have arisen in their midst, offering fanciful schemes as a cure-all for their economic troubles. These schemes ultimately proved both costly and disastrous."

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An Economic History of Athens under Roman Domination. By JOHN DAY. (New York: Columbia Univ. Press. 1942. Pp. xi, 300. $3.50.)

An economic history of Athens dedicated to both Westermann and Rostovtzeff raises great expectations, and these expectations are not disappointed. Although one could wish that the book were easier reading: that it did not at

times lose itself in detail, that the nonspecialist were aided by more evident organization, and that the chronological approach did not prevent the unified treatment of such main topics as slavery, imports, and grain supply; nevertheless, this account of the fortunes of Athens from the fourth century B.C. to the fourth A.D. is thorough, scholarly, and well documented—with copious notes on the latest archaeological evidence.

The first section, in the main historical, traces fluctuations in the prosperity of Athens from the period of its great maritime empire, through disastrous wars, lean years, and illusory renaissances, to the revival that preceded the advent of the Romans. The rise and fall of prices through the Mediterranean world following Alexander's conquest—a study begun by Glotz, reëxamined by Heichelheim, and more recently by Larsen—is presented with care, and the evidence from Delos placed in its proper setting. The brisk trade that sprang up betwen Athens and northern Greece, as well as the Black Sea ports, is revealed by Day's analysis of foreign names on Athenian tombstones and in honorary decrees. Mass production in the ceramic industry, the use of slaves, and the difficulty of importing adequate grain and other foodstuffs are also considered in this section.

As interest rates indicate, no large amount of capital was removed from Greece by her conquerors; further, the stability of temple accounts at Delos shows that no great economic upheaval resulted from the coming of the Romans. On the contrary, foreign trade revived and Athens became the center of such a flourishing transit trade that, according to Day, Hellenistic kings made gifts to the city to further the commerce of their own realms. This ingenious suggestion is supported by inscriptional evidence revealing rather clearly the direction of trade at this time. A competent analysis of a decree honoring a rich trader carrying oil to the Pontus (*I.G.*, II,^{2} 903) also lends weight to the preceding argument.

The chief problem in the treatment of Athens in the years after 166 is whether the acquistion of Delos proved a burden or an asset. Delos now crowded Athens from the economic picture, in much the same way as Puteoli was to crowd Delos: trade routes had shifted and Athens was no longer on the main line. This part of the study suffers the blight of all histories of ancient economics, since the records from Delos, rich in the preceding century, are unusually scanty for the time of prosperity. Evidence from the Piraeus, however, shows that Athens shared in this prosperity, becoming the center for Delian agents engaged in trade with central and northern Greece. Some of the evidence (for example, *C.I.L.*, V, 7350) is unimpressive; other (such as the discussion of the New Style coinage) is overwhelming; yet, all in all, it is certainly clear that a cosmopolitan crowd of traders had once again settled at Athens. This chapter, like most of the others, concludes with a list of articles of trade, and here is retold the delightful story of the discovery of that ancient ship which foundered off Tunisia, laden with works of art for the new Italian customers.

The sack of the city by Sulla was not the end, for, in spite of the rhetorical exaggeration of many an ancient author who speaks of the desert that once was

Athens, Day is able to show from archaeological evidence that the city enjoyed something of a renaissance under Augustus. In accord with his practice at Rome and throughout the empire, Julius Caesar attempted to further commerce at Athens by building the so-called Roman market, and here too, as at Rome, the peace that came with Augustus resulted in a revival of building. Yet this renaissance, which the author pictures in detail in chapter IV, has another aspect: Athens produced less and less for export, the silver mines at Laurium were exhausted, and the problem of securing grain for the populace became so acute that the emperor intervened with sporadic gifts and finally with the establishment of a special treasury. From the time of Augustus on, the city began to live more and more in the past; it became a university center and a resort for tourists, a city which balanced its budget only by the sale of its citizenship and by the gifts of wealthy patrons.

The section which deals with Athens under the emperors shows vividly the thinness of the veneer which doles, festivals, and building activities spread over the essential poverty beneath. With the loss of empire, the absence of natural resources, and the shifting of trade routes, the only industries of any importance to remain were the production of objects of art and, if we may call it such, the training of foreign youths at the university of Athens. A specious prosperity bloomed under Hadrian. The discussion of his building program, including an analysis of materials used, their source, and amount, as well as a complete bibliography on the archaeological reports, is very useful. Two economic inscriptions of importance (*I.G.*, II,[2] 110 and 2776), one dealing with the forced sale of olive oil to the state, the other with mortgages on property in support of an alimentation project, are interpreted with precision. The concluding examination of the wealth of Athens' millionaire sophist, Herodes Atticus, reëmphasizes and summarizes the gap that existed between the small class of rich men and the great mass of the very poor who rioted for bread and were given shows.

In the third century the paucity of evidence does not permit the author to link the fate of Athens with that of the rest of the empire, for in these years Athens clearly turned its face from the West to the Orient. Before the raid of the Heruli in 267, the university continued to attract students, agriculture suffered no decline, and industry enjoyed a brief prosperity. After this disaster, not even the ruins in the center of the city were rebuilt. Day differs from other authorities who speak of the stimulating effect of the clash with the barbarians. If there was a revival in the fourth century, he believes rightly that it was extremely modest, for, with the founding of Constantine's new capital with its own university, Athens' one remaining source of fame and revenue disappeared.

Some minor questions on detail might be raised: Augustus' short-lived enmity to Athens was hardly "pique" (pp. 135-36); Strabo's validity deserves more kindly treatment (p. 124); the existence of declamations and "readings" at Rome in the time of Augustus (p. 140) rests on no proof; Magie's article in *J.R.S.* (Vol. XXIX, 1939) might be cited on page 27; the "mel Atticum" on the Roman mosaic (p. 203) probably permits another interpretation.

A substantial Appendix on the population of Athens, although it adds no new conclusions to the important publication of Gomme, conveniently reviews all the ancient evidence and evaluates the results of modern studies.

HELEN J. LOANE

Baltimore

Economic Systems; National Economies

V. I. Lenin, Collected Works. By ALEXANDER TRACHTENBERG, editor. Translated by MOISSAYE J. OLGIN. Vol. XIX. (New York: International Publishers. 1942. Pp. 463.)

With this volume International Publishers resume, after a considerable interruption, the important task of making available in English the *Collected Works* of Lenin. The complete Russian edition runs to thirty volumes; of this number six (Vols. IV, XIII, XVIII, XIX, XX, XXI) have now been made available in English. This, however, does not represent the full extent of English translations of Lenin since twelve volumes of *Selected Works* have also been issued by International Publishers. The present volume contains all the writings of the year 1916 and the first quarter of 1917, that is to say, the middle period of the First World War and the fifteen months immediately preceding the downfall of Tsarism in Russia.

The longest single piece, occupying a quarter of the whole volume, is Lenin's well-known booklet on Imperialism, written in Switzerland in the spring of 1916. This work has already been presented in several versions in English. The present translation appears to be a new one, or at least a revision of earlier translations. For one unable to read the original, it is impossible to say more than that the text reads well and seems to be entirely adequate. The work itself, of course, is of enormous historical and theoretical interest; it is probably correct to say that no book by a socialist since Marx's *Capital* has had so profound an influence as *Imperialism*. In studying it economists should bear in mind two points: first, that *Imperialism* is a direct continuation and application of Part VII of Volume I of *Capital;* but, second, that Lenin was writing an essentially popular work so that underlying theoretical issues concerning the structure and functioning of capitalist economy are either taken for granted or formulated very briefly and without supporting discussion. The result is that one who has mastered the fundamentals of Marxian political economy finds in *Imperialism* a beautifully compact and coherent structure, while to one who has never seriously studied *Capital* it is likely to appear dogmatic and theoretically unsophisticated.

The remainder of the volume, made up of articles, reviews, speeches and letters, deals with burning issues of the day and is primarily polemical in tone. Several themes continually recur: the character of the war; the chief tendencies within the international socialist movement; the question of subject nations; militarism and pacifism. A careful reading of these clear and impas-

sioned analyses will do much to dispel misunderstandings concerning the general attitude of Marxists toward war, misunderstandings which are specially unfortunate at a time when we in the United States are allied with the Soviet Union in a life-and-death struggle against the Axis powers. For example, it is sometimes argued that, because Lenin denounced the war of 1914-18 as an imperialist war, therefore to be consistent he and his followers would have to denounce all wars in the present historical period as imperialist. This, indeed, is very much the way Rosa Luxemburg argued in her Junius pamphlets. It is therefore interesting to see that Lenin, in a generally sympathetic review (pp. 199-214), took issue with precisely this point. Progressive national wars, Lenin maintained, are inevitable in the colonial countries in the period of imperialism, and they are far from being impossible even in Europe:

if the *European* proletariat [he wrote] were to remain impotent for another twenty years; *if* the present war were to end in victories similar to those achieved by Napoleon, in the subjugation of a number of virile national states; *if* imperialism outside Europe (primarily American and Japanese) were to remain in power, say, as a result of a Japanese-American war, then a great national war in Europe would be possible. This means that Europe would be thrown *back* for several decades. This is improbable, but it is *not* impossible, for to picture world history as advancing smoothly and steadily without taking gigantic strides backward is undialectical, unscientific and theoretically wrong (pp. 203-04).

Naturally Lenin did not foresee the precise course of events in the coming decades, but it would be difficult to maintain, with this illuminating passage in mind, that he would have been surprised or discouraged or baffled by what has actually taken place.

Another problem of supreme importance today was stressed again and again by Lenin in these writings of 1916-17, namely, the question of self-determination for the subjugated nations. He insisted that self-determination was a vital and valid cause which all socialists ought to support to the full. Naturally this does not mean that he favored a world political order of numerous sovereign states; on the contrary, his ideal was a world federation of socialist societies. But he insisted that such a federation could be achieved only by the voluntary accession of the member nations, and that the first pre-condition for this is the right of each to self-determination. Those who look forward to a post-war world "policed" by the United Nations, including the Soviet Union, would do well to ponder this fundamental principle of Lenin's teaching.

There is much else in this volume which throws light not only on the past but also on the present and the future. Now that the Soviet Union is fighting as our ally and bearing the main brunt of the struggle against fascism, it is obviously of enormous importance for Americans to understand the ideas of the man who has always been, and seems likely to remain, the guiding spirit of Soviet policy. For this reason it is no exaggeration to say that this book is one of the most important to appear since the present war began. Those who take their responsibilities as social scientists seriously should certainly study it with care.

There is no indication in the Editor's Foreword as to when we may expect additional volumes of Lenin's *Collected Works;* nor as to which volumes they

will be when they do appear. Speaking as an economist, one would like to urge the desirability of bringing out as soon as possible Volumes II and III. Large sections of the latter, on the development of capitalism in Russia, have already appeared in Volume I of the *Selected Works,* but almost all of the extremely interesting and important introductory theoretical chapter is omitted. This chapter deals with the Marxian theory of the reproduction process and constitutes in itself one of the classics of socialist economic theory. It is available in the German edition of the *Collected Works,* and a section of it is reproduced in an appendix to Volume II of the Marx-Engels-Lenin Institute edition of *Das Kapital.* This same appendix contains also excerpts from Volume II of the *Collected Works* which otherwise is available only in Russian. The nature of these excerpts is such as to make one impatient to see the rest of the volume.

PAUL M. SWEEZY

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Latin America: A Descriptive Survey. By WILLIAM LYTLE SCHURZ. (New York: Dutton. 1941. Pp. 378. $3.75.)

The author of this book is a veteran in the field of Latin American history and contemporary affairs. His special competence lies in the field of Latin American commerce, past and present, but in this book he ranges over the whole Latin American field. Dealing successively in seven sections with the land, the history, the people, the government, the economy, the international relations, and the way of life of our neighbors to the south, this book might well be called "Latin American Omnibus." Yet all this is packed into 350 pages of text.

The ambitious plan of his book made Mr. Schurz's task an extremely difficult one. To describe adequately so many phases of the life of even a single nation at one moment of history would tax the powers of any writer; but Mr. Schurz has undertaken to do this for the twenty highly diversified nations of Latin America over a period of several centuries reaching back into the period before the discovery and conquest of America by the Spaniards and Portuguese. The difficulty of his task was aggravated by the fact that in many important respects the development of Latin America has been shaped by foreign influences to a greater degree than that of any other "civilized" region in the world. These facts should be kept in mind in striking a balance of the merits and defects of this book, both of which are numerous and important.

Among the best features of the book are the clarity with which the author brings out the unity as well as the diversity of Latin America, the shrewdness and sanity that characterize his judgments on many of the problems on which he has chosen to focus his attention, and the vitality that he has given to his discussion of general themes by the frequent use of concrete illustrations. Some of these are drawn from his large stock of quaint and curious lore; for example, his statement that "Tex" Rickard, "the well-known prize-fighting impressario," was one of the pioneers of the Paraguayan meat-packing industry (p. 177,

note 21). It should be added, however, that he has missed an opportunity to enliven his narrative still further by including thumbnail sketches of some of the many colorful personalities of Latin America, which has always been characterized by a high degree of personalism in its public life.

In discussing the economic development of Latin America, Mr. Schurz quite properly brings out a point which many observers have missed, namely, the fact that a reorientation of the economic life of Latin America occurred about 1880, partly under the influence of new, large-scale foreign investments. He also stresses, though not unduly, the fact that the United States is the only country that possesses all the facilities necessary to sustain its competitive position in Latin American trade ("well-established commercial houses familiar with the field . . . its own banks, ocean shipping lines, airlines, cable communications, local organizations of its businessmen . . . and official trade-promotion services"). His sketch of airways in Latin America is excellent, though on this subject the interested reader will wish to consult the far more detailed and thorough account contained in Oliver J. Lissitzyn's *International Air Transport*,[1] which appeared several months after the publication of Mr. Schurz's book.

In the political and cultural fields, too, Mr. Schurz makes many observations that show good judgment as well as an extensive knowledge of the vast subject matter; for example, the statements that Brazil has been a powerful influence for continental peace and that the United States has missed an opportunity to use Puerto Rico as a natural bond with Latin America. "Realistic" critics of Pan Americanism would do well to note his conclusion that "after all, nowhere else in the world is there such a concerted structure of international understanding and good will based on the principle of live and let live" as the Americas enjoy under the Pan American system. There are also good, though necessarily extremely brief, accounts of such topics as Indianism, labor, social legislation, and public health.

On the other side of the ledger Mr. Schurz's book suffers from many defects which it is hoped will be corrected in future editions. His treatment of the highly important question of foreign investments in Latin America is fragmentary and superficial. His treatment of foreign commerce, while excellent in detail, fails to bring out clearly either the fact that the combined trade of the European countries with Latin America is normally larger than that of the United States or that the statistics of the foreign trade of Latin America have to be analyzed on a regional basis if we are to appreciate either their economic or political significance. The section entitled "History" stops without explanation at the end of the wars of independence in the 1820's and the subsequent history of Latin America is nowhere discussed systematically.

It is in his handling of international relations that Mr. Schurz's book is least satisfactory. It is not true that, as he asserts, the Monroe Doctrine in the nineteenth century was "made effective by the tacit support of English seapower" or that the Doctrine was the basis of an "undeclared partnership" between the United States and Britain (pp. 61, 270-71). These assertions are

[1] New York, Council on Foreign Relations, 1942.

true only of the twentieth century and even when so restricted they require extensive qualification. A similar lack of sureness of touch is noticeable in Mr. Schurz's handling of the Good Neighbor policy and the recent history of Pan Americanism. For example, his statement that "for all practical purposes the Monroe Doctrine has become a phase of Pan-Americanism" (p. 274) is quite misleading. Again, by erroneously dating the Pan American "Neutrality Conference" of Panama in 1940 instead of 1939 (p. 307), he has confused the whole story of the development of inter-American relations in the first eighteen months of the present war.

While the footnote citations of authorities are copious, this reviewer found no mention of the important works of Percy W. Bidwell on Latin American trade, Cleona Lewis on United States foreign investments, Kelchner on Latin America and the League of Nations, Luis Alberto Sánchez on Spanish American literature, and Lawrence Schmeckebier on Mexican painting. The *Handbook of Latin American Studies* is by no means exclusively devoted to historical studies, and the quarterly *Foreign Affairs* is published not by the Foreign Policy Association but by the Council on Foreign Relations (*cf.* p. 295). The Index is very poor; the only map is a small end-paper map (both front and back end-papers) showing the whole of Latin America; and there are no illustrations.

Mr. Schurz's book needs extensive revision, but it also deserves it; for, with all its shortcomings, it is one of the best of the many general books about Latin America published in recent years.

ARTHUR P. WHITAKER

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The Philippines: A Study in National Development. By JOSEPH RALSTON HAYDEN. (New York: Macmillan. 1942. Pp. xxvi, 805. $9.00.)

Whatever kinds of post-war organizations are set up in Southeastern Asia, it is reasonably certain that the Philippines will be recognized as an independent nation. The country had made real progress toward that goal; its people had demonstrated a capacity for self-government; the majority of the enlightened Filipinos and of their leaders were prepared to pay more than lip service to the democratic ideal, as the record of the war has shown. Adequate testimony to the country's progress up to the time of the outbreak of the war in the Pacific is contained in Professor Hayden's new book, which was in press when hostilities began. It is an outstanding contribution to the literature on the country, and the author's knowledge is illumined by wisdom and sympathetic understanding.

This *Study in National Development* is devoted largely to the structure of the Philippine Commonwealth Government and its accomplishments during the six years of its existence. Enough of the country's former history is given so that the threads of the pattern are seen: three and a half decades of American control; three and a half centuries of Spanish rule; and the earlier institutions of the Filipino peoples before they felt the impact of the West.

The author is keenly aware of the influence these widely differing cultures have had upon the peoples and institutions of the islands. Yet his general observation is that ". . . the Spanish-trained Filipino leaders . . . have carried on their municipal, provincial and insular governments in general accordance with American principles. . . . the surprising thing is not that divergence from American standards has been so great, but that it has been so slight."

Professor Hayden presents thorough, carefully-documented studies of the Philippine constitution, the various departments and services of the Commonwealth Government, and the country's social services. His conclusions with regard to each one of these are significant, adding up to a generally favorable picture of the country's progress. The constitution ". . . reveals the possession of a high degree of political capacity by those who drafted it. . . . It is a Filipino and not a foreign instrument, and provides the constitutional foundation for a genuinely Filipino government. . . . Careful study of the Philippine Constitution shows that the Philippine President was deliberately given a position of predominance which was not accorded to the President of the United States and has never been attained by that official, save, perhaps, in the emergency of war. This position seems to be in harmony with that of the 'national leader' as developed between 1907 and 1935, and with the native Filipino conception of the role which the President should play."

With regard to the civil service record, the author states: "In no field of governmental activity have the Filipinos more energetically and wisely exercised their newly acquired autonomy than in this one. . . . This body of permanent public servants, working under conditions such as now exist, is entirely capable of administering the Filipino Government in a manner which will contribute to its future stability and progress." Similarly, "The Philippine legislative record of the past 34 years seems to justify the conclusion that Filipinos are developing a lawmaking body which, like the other parts of their government, will be well qualified to perform its proper functions in the Philippine state." The judicial system is likewise commended.

Local government in the Philippines Hayden considers perhaps not wholly democratic, as Americans conceive democracy, but "genuinely representative of the ideas and the other forces which dominate Filipino life." Its weaknesses he attributes not to the form of government but to the composition and organization of Filipino society.

The story of the struggle for independence from the United States is told largely in terms of the leading figures on the Philippine political scene and in terms of political parties—parties which were "instruments of liberty rather than of government." The consequent growth of the one-party system and "something closely akin to one-man rule," justified temporarily by its supporters upon grounds of efficiency and stability in government, is in the author's opinion only a step removed from the acceptance of this kind of rule in principle. In such ways, Hayden points out trends which have serious implications for the future.

In the hundred pages devoted to the educational system of the Philippines, tribute is paid to both Americans and Filipinos for their high purpose and

great courage in undertaking the broad system of education, progressive in concept, upon which they embarked in the early days of American rule. The complexity of the problem is well presented, involving the geography of the country; social and linguistic differences among the various ethnic groups—Hayden devotes much attention to the language problem; insufficient funds for the mammoth task; difficulties of securing teachers; and the dangers inherent in highly centralized control of the system. The commonwealth, ambitious to broaden the base of education, erred on the side of sacrificing quality to quantity, but has sought to remedy this deficiency in the Educational act of 1940. But it will take some time for the new nation, with its limited income, to attain the goal of an educated citizenry.

Professor Hayden states, at the conclusion of the chapters on public health, that in the present century "the way of living has been greatly improved in the Philippines, with a corresponding betterment in the health of the people; and there is evidence that the rate of betterment has been accelerated during the period of the Commonwealth." Neverthless, he feels that the question of the Filipinos' physical vigor has received too little consideration in the total question of their ability to assume the burdens of statehood.

Philippine relations with China and Japan will be of enormous importance in the post-war period, although the results of Japanese occupation of the islands are bound to be felt in ways not entirely calculable at the present moment. The attempts of the commonwealth to safeguard its natural resources, to nationalize its retail trade, to limit the immigration from its two great neighbors, are analyzed fully and in a way which demonstrates that the eviction of the Japanese conqueror will not solve all the delicate problems that exist.

Less attention than one could wish has been devoted to economic conditions. The section on relations with the United States deals almost entirely with the legal and political aspects of the country's changing status; the final chapter considers in some detail the economic effects of the Independence act. A few pages give a broad analysis of the country's national resources which unquestionably furnish "a substantial base for a Filipino state." Yet we find no consideration of the basic reasons why the Filipinos are poor in an undeveloped country of large potentialities, or why there is so great a gap between the 15 per cent of the population making up the group of wealthy influential citizens, and the other 85 per cent, for the most part poor and underprivileged. How they live, what wages they earn, how their country might be better developed economically are questions that are barely hinted at.

Although little detailed attention is given to economic problems, the author makes clear on numerous occasions his own convictions with regard to the country's economic future: ". . . despite the remarkable accomplishments of the past four decades the Philippines still need the protection and economic support of the United States. A careful study of every major problem with which the Commonwealth has been confronted . . . raises grave question as to whether it could be solved were the Philippines actually left to stand alone and to be treated by the United States as any other foreign state after 1946. . . .

every particular advance which has been made in the Philippines . . . can be maintained and carried further only if the basic conditions which have made progress possible can be continued for an indefinite future period."

In the main, therefore, although Hayden does not gloss over inadequacies and shortcomings in the commonwealth, the total picture which he presents is one that reflects credit upon Americans and Filipinos alike. The misgivings which he entertains with regard to the future will apply to many if not all parts of the world when the present conflict is ended. The interdependence of nations, in terms of security and prosperity, can hardly be argued.

CATHERINE PORTER

New York

Post-War Worlds. By P. E. CORBETT. I.P.R. inquiry series. (New York: Farrar and Rinehart. 1942. Pp. ix, 208. $2.00.)

This is a timely and useful book. The world is filled with the hope for an utterly new order which will come after this war, but public opinion faces very inadequately the problems and issues which should be solved by the new and more just world society. In lack of precise aims the thinking of most men, statesmen and politicians included, is turned toward certain slogans such as The World State, Socialism, Communism, and before all Federalism. Even some great experts, with an authoritative pose, do not go farther than the assertion that "a certain form of federalism must be established in the post-war world." One recalls in this connection the often quoted words of Goethe in *Faust:* "Denn eben, wo Begriffe fehlen, da stellt ein Wort zur rechten Zeit sich ein."

In this situation of vague thinking and sentimental generalization the author has undertaken the important task of analyzing the more significant plans offered since the First World War concerning a more stable world order. He does it in the light of the practical experiences developed in different fields and especially through the work of the League of Nations.

In doing this he shows acumen and a praiseworthy effort to emancipate himself from the usual unwarranted assumptions of the sentimental peacemakers. His leading ideas and criticisms are mostly clear and pertinent. There are only two points in which this reviewer does not share the fundamental anticipation of the book. One is the exaggerated confidence of the author in so-called experts. He thinks that the disaster of the peace settlement after the First World War was due to the nonexistence of well excogitated peace plans which could have been submitted to the peace-making leaders and diplomats. Therefore he would like to mobilize now competent experts to do this job and, as a kind of prolegomena, he offers to them his present book.

But one cannot see who those experts are and where they are. Of course there exist a few excellent specialists who have emphasized certain weaknesses in the present international relations. There are even fewer able minds who have tried to synthesize the causes of our present tragedy. But the overwhelming majority of the so-called experts was that loud and uncritical group which worshiped the League of Nations even in a time when it was already evident

that this organization was headed toward catastrophe due to its fundamental frailties and faults. These so-called experts are to a large extent responsible for creating the false feeling of security which lulled the democracies into inertia and which was the chief cause of the appeasement policy. It is highly undesirable that the future peace should be based on their blueprints. What we need are really creative statesmen who know exactly what they want to achieve, that is, who know the possibilities and limitations of their power. These statesmen (unfortunately the greatest rarity in our period!) will ask real experts *on special points* which they might know better, but they will staunchly refuse to accept the complaisant dreams of the professional peacemakers.

The other point in which this writer disagrees with the author is that Mr. Corbett is too much inclined to regard the establishment of new institutions as the essence of our problem, whereas, this reviewer believes, we must first envisage the problem of *how to generate the moral will* which alone can give real life to those institutions. In other words, the League of Nations collapsed not because its Covenant had certain loopholes and its mechanism was not efficient enough, but it collapsed because that vague institution was organically impotent to produce a common moral will, that is, the driving force for the accomplishments of its aims.

It would be unjust, however, to say that the author has neglected entirely this point of view. For instance, he fully realizes that the idea of Federalism cannot be accomplished as a general formula, neither in its bourgeois temper of the United States of Europe, nor in the socialistic revolutionism of H. G. Wells. Without a certain unity in their political, economic, and social structure, it is idle to hope that states can adopt any serious form of Federalism, which may vary from coöperation in a few common interests to a full-fledged federal union. However, when he describes the minimum requirements of a World Commonwealth which he considers as a necessary superstructure over the various forms of federal coöperations (pp. 191-92), he does not show how these various institutions could function in a world such as ours will be after this war. One has the feeling that this World Commonwealth in the form contemplated by the author would reintroduce all or most of the infirmities of the League of Nations.

Be it as it may, the present book will be useful to all who are seriously pondering the plans for a future world order. It is a wholesome counterweight against the sentimental blueprints of the propagandists of a "perpetual peace immediately achieved after this war."

OSCAR JÁSZI

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Strategy for Democracy. By J. DONALD KINGLEY and DAVID W. PETEGORSKY, and others. (New York: Longmans Green. 1942. Pp. ix, 342. $3.00.)

This volume grew out of the Conference on Progressive Action and Post-War Reconstruction held at Antioch College in June, 1941. The general thesis

is that private profit capitalism contains the seeds of its own destruction. These are concentration and monopoly with the collectivization of industry and the individualization of control; *i.e.*, the owners (stockholders) are no longer the managers of their own property (*cf.* Berle and Means, and T.N.E.C. monog. no. 11). The resulting inequality in distribution of wealth and income, lack of mass purchasing power, multiplied productivity, ever-decreasing employment, the decline of the expanding, or exploiting, economy both at home and abroad (which kept capitalism from bogging down even sooner than it has), have brought the present economic system to an impossible impasse. Intensified nationalism, economic imperialism, and international war for exploitable markets and raw materials are inevitable results of the effort to keep profit-motived capitalism going, but these days are gone forever. The present conflict must eventuate in a going forward to economic and all other forms of democracy, or a going back to force, special privilege for the few, and insecurity and discontent for the many, with some kind of autarchy replacing the current anarchy.

In discussing "Union How?" the position is taken that an international government limiting the sovereignty of the constituent states is a *sine qua non* of world order, but that such an external federation is impossible unless the nation-states revise their internal economic order so as to make the needs and wants of the masses, rather than secure profits for the few, the objective of economic activity. Production for use, not for profit, would enable countries to consume at home most of what they can produce and thus make possible mutually beneficial international exchange both of raw materials and finished products.

Not all the contributors develop the main theme materially. Pierre Cot's "Framework of International Organization" is purely political and is based on a dubious concept of "regionalism." He says nothing whatever about the idealistic economic dream of Kingsley and Petegorsky. Max Werner's "Mastering the Military Machine" goes little beyond suggesting that, after the German and Japanese warlords are destroyed, Britain, the United States, and Russia must police the world and then agree to disarm after a workable world federation has been evolved. Albert Guérard shows why "self-determination" of minorities cannot work; what can work is the complete divorce of "sentiment" from "territory." Nationalism as a *sentiment* does no harm, but when *sentiment* and *soil* are coercively joined, we get the "crude fallacy of the national state," and disaster results. His idea is familiar to Americans in the phrase "liberty under law" but he emphasizes the necessity for its international application. Oscar I. Janowsky says essentially the same thing in discussing the "Minorities Problem."

Section III, "Campaigning for Plenty," is a more detailed discussion of the economic equalitarianism which is the main thesis of the book. This section, which asserts that the basic post-war problems are economic, not political, will doubtless evoke the most heated approval and disapproval among economists, not because of their scientific economic knowledge, but because of the varying social philosophies which they espouse. To the reviewer, a mere sociologist

supposed to know nothing about economics, the summary of the modern productive system seems very obvious, *viz.*, that it is collective, large-scale, world-wide, involves great fixed costs (heavy capitalization), is geared to mass consumption and a future market—all of which demands social stability. It also seems obvious that such an economic system cannot continue to operate unless the great mass of the people are "sold" on it and they cannot be so sold unless the system gives them "a say" and "a chance," with a decent standard of living and a reasonable expectation of security. In other words, it must be democratized, socialized, and stabilized domestically and internationally. The vested interests of the few cannot forever defeat the aspirations of the many. This means a chance to work for an ever-increasing *real* wage to the utter upper limits permitted by natural resources and the state of the industrial arts.

This has been obvious at least since Veblen, but to assume that the transition to economic utopia is as easy, sure, and certain as the authors imply and as Mr. Ezekiel assumes in his short chapter on a planned economy seems highly doubtful. I do not think they or anyone else knows very clearly how it can be done in this year of disgrace, 1942. In the prophet Ezekiel's inspired paragraphs, it sounds almost as simple as a dime-store shopping tour to convert our war economy to undiminished or increased peace production. Consider some of his simple little proposals: a tax system to increase mass consumption—but at the same time to stimulate investment; to change all taxes, federal, state, and local, so as to reduce the burden on low income classes (which are about 90 per cent of us), but at the same time to provide for enormous government expenditures—on top of the 300-billion-dollar (?) war debt; and so on. He suggests many ways to spend government funds. *What* funds? one might ask, if his tax schemes ever become more than pious hopes. It is much easier to think of ways to spend money than it is to justify them or to get the cash—or the consent of our "practical politician" lawmakers. Perhaps my error is in assuming that you need money; he mentions fiat money, the Fisher Dollar, and government obligations that bear no interest, all of which smells like inflation rampant. What becomes of the social stability which "a modern productive system requires"?

The remainder of the book repeats the aspirations and hopes of the authors. Section IV attempts to show how we can realize them. It emphasizes the rôle the "intellectuals" can play but it does not tell us who these gentry are. There is also considerable talk about "progressives" and "reactionaries"—but no definitions. These are epithetic, not descriptive, terms. To win the technicians to the "progressive" cause, our authors think, will be relatively easy. (In this section, they give a good criticism of Burnham's "managerial revolution" which they regard as essentially fascist in ideology.[1] The authors must know a different set of "intellectuals," technicians, and middle-class people from those I do.

This, I think, suggests the basic criticism of the book. None of the authors knows enough sociology to be really "realistic." They still are in bondage to

[1] For another good criticism of Burnham, see W. T. Stead, "Democracy and Social Controls in Industry," *Am. Soc. Rev.*, Apr., 1942, pp. 176-84.

the magic of eloquent words; they think men are reasonable and that good will and good sense are synonymous; they do not know the glacial qualities of the capitalistic mores, five or six hundred years in the making; they have not properly considered the monstrous phenomenon of the Democratic South nor the absurdity of Iowa farmers voting for protective tariffs for a hundred years; they haven't read Pareto or talked to many men on the street. Perhaps these are the stigmata of intellectuals.

If we win security from future wars, we will win the chance to achieve the kind of social and economic democracy our authors envision, but it will take longer than they think. If the Millennial Dawn comes, it will come through the cloud-rack of blood, sweat, and tears—slowly, painfully, and with plenty of stumbling and blundering. The simple sociological fact is that the mores of the utopia of which they dream do not now exist in the minds and actions of a sufficient proportion of the population to make possible any quick and easy achievement of their "New Order." A New Order certainly is emerging, but it is likely to follow the slow unconscious piecemeal pattern which characterized the transition from agrarian Rome to military imperial Rome to theocratic Rome to secular feudalism to dynastic state to capitalistic national imperialism. These "new world-order revolutions" require centuries, not decades, and they are not "revolutions" except in retrospect.

Of course, this is not a scientific treatise. It is a youthful hope in the prophetic vein, but the policies and goals it advocates are alleged to be imperatives derived from the factual findings of the social sciences and from economics in particular. As a matter of fact, we simply do not know enough now to create the kind of rosy world of which the authors dream and we won't know enough until the social sciences have become much more scientific than they are at present. It was 500 years from Paracelsus to synthetic rubber. We need at least a hundred years of research before we can make synthetic societies; and then they are not likely to resemble our "plan" even as closely as the B-19 resembles da Vinci's "flying machine."

Serious books should not be printed without an index.

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Miami University

Statistics; Economic Mathematics; Accounting

The Relation of Cost to Output for a Leather Belt Shop. By JOEL DEAN. *Memorandum on Costs in Relation to Output.* By C. REINOLD NOYES. Tech., pap. no. 2. (New York: Nat. Bur. of Econ. Research. 1941. Pp. 72.)

In the statistical study which constitutes the principle part of Technical Paper 2 of the National Bureau of Economic Research, Joel Dean makes another addition to that growing literature of statistical cost analysis to which he has been the chief contributor. The basic techniques likely to be employed in the statistical determination of cost-output functions are by now familiar to the initiate, and enough studies have been completed to put the theorist on

guard for the linear total cost functions (and derived constant marginal costs) which seem typically to be found. Against the background of earlier contributions, therefore, the present study is noteworthy in at least three respects. First, of course, in presenting empirical results from another case study it adds another page to the volume of statistical evidence concerning the cost functions of industrial firms. Second, it offers an exceptionally clear-cut exposition of the techniques employed and of their statistical and economic rationale—a thing readers have come to take for granted from Mr. Dean. Finally—and this part of the study is perhaps the most novel—it devotes considerable attention to tests for establishing the most controverted result of numerous cost studies, the linearity of the output-total cost function.

The empirical findings include the calculation of several output-cost relationships for a leather belt plant, including aggregate total cost functions, functions for the components of total cost, and average cost functions. A linear total cost function is established as the best fit, after experimentation with a cubic function. Practically all of the significant statistical possibilities offered by the data are thoroughly explored, so that the results are better defended than many against the usual types of statistical criticism.

There is an admirably clear exposition of the techniques employed in choosing data, in rectifying it through deflation, and in the application of multiple regression analysis. An interesting and somewhat novel aspect of Dean's technique is the final treatment of output in two dimensions (or as two variables) —area of belting and weight of belting. This leads to a multiple correlation analysis involving cost and the two output variables.

The most novel aspect of the study is the exposition and application of a whole array of tests of the linearity of the net relation between total cost and output. Analysis of the variance of total cost observations from the linear partial regression, and of the variance of residuals from the linear multiple regression surface; calculation of the relation of incremental cost to output and of average cost to output; and fitting of an alternative cubic total cost function are all included. In addition to reinforcing Dean's immediate results, this section of the study constitutes a useful catalogue of linearity tests for the careful statistical worker, and anticipates criticism of the character raised by Ruggles, Ezekiel, and others with respect to certain cost studies of recent note.

As a whole Mr. Dean's study is characterized by a notable care in exposition and a welcome conservatism in the interpretation of results, which has not in so high a degree characterized the recent work of others employing similar techniques.

The appended memorandum on costs by C. Reinold Noyes is not directly related to Mr. Dean's study, constituting rather a general criticism of modern theoretical cost analysis as it is employed as a background for statistical research. It is Mr. Noyes's contention that numerous matters of theory must be clarified before empirical cost studies can yield definitive results.

In a sense economic theorists deserve the reprimand of Mr. Noyes, since it is true that the modern literature includes no unified definitive treatment of the definition of costs, of the allocation of costs over time, and of the precise

relationships among short-run price analysis, the time-sequence analysis of capital values, and accounting doctrine. It is also probably true that many economists have never troubled to piece these problems together for themselves, so as to have on the tips of their tongues a quick answer to the questions posed by Mr. Noyes.

On the other hand, it is true that scattered through the literature there exists a body of doctrine adequate to fill most of the gaps found by Mr. Noyes. Opportunity costs, user costs, and the distinction between private and social costs, for example, have been dealt with fairly adequately by various authors. The problem of how to allocate truly fixed costs over time and over output in the short period is also presented by Mr. Noyes as requiring definitive solution in price-cost theory. Although statistical and accounting literature is replete with suggestions along this line (as, *e.g.*, in the work of Canning, Hotelling, and Preinreich), it is true that the allocation problem has not been logically resolved by reference to the premises of price theory. But this is attributable to the fact that in the short-period fixed costs are not costs at all (see the Marshallian doctrine of quasi-rent), and that therefore price analysis can offer no real criteria by which to measure the relative validity of various methods of allocating fixed costs over time or output in the short period. Methods of short period cost allocation merely solve a problem which in price analysis does not exist. It does not necessarily follow that price analysis is at fault.

Although most of the points raised by Mr. Noyes are significant and important a good many of them are, therefore, already squarely met at one place or another in contemporary economic thought. It definitely does remain, however, for some writer to unify contemporary cost doctrine in a single treatment oriented to the problems of statistical cost research.

Joe S. Bain

University of California

Statistical Methods Applied to Agricultural Economics. By Frank A. Pearson and Kenneth R. Bennett. (New York: Wiley. 1942. Pp. vii, 443. $4.00.)

In several respects this book is an admirable achievement. Professors Pearson and Bennett make the first major application of modern statistical methods to agricultural economics. Methods of mathematical and graphic correlation analysis, the analysis of variance, and the chi-square and *t* tests are given important rôles in the solutions of problems of farm management and operation. Techniques of statistical inference, familiar to all students of the writings of Fisher, Ezekiel, Karl Pearson, Gossett, and Snedecor, are introduced into the methodology with simplicity and clarity. Highlights are the nicety of treatment of the null-hypothesis, the adaption of tabular analysis to the study of variance, and the variations upon graphic correlation methods.

The authors make no pretense of presenting the theoretical aspects of statistical probability and of errors of observation; in fact, the authors state only the most cursory propositions in either case. This deficiency reduces

somewhat the usefulness of *Statistical Methods*. Without at least an elementary understanding of the Gaussian and other probability curves the student may encounter difficulty in making inferences upon the kind of data usually available in the field of agricultural economics. A more thoroughgoing examination of the meaning of variability would also have greatly assisted the beginning student. A warranted supplement to methods of curve fitting and multiple curvilinear correlation is Fisher's theory of the transformation of equations through orthogonal polynomials; the authors make no reference to it.

The reviewer is also a bit puzzled that so competent a student of the subject as Professor Pearson should slight the theory of index numbers. Admittedly, a book on statistical methodology cannot devote too much space to theoretical issues. But, in view of the application of these methods to agricultural economics, an excellent opportunity, for example, to expand upon fundamentals of weighting, the relation between changes in value and changes in price, and index number sampling is foregone. In addition some aspects of index number method, among others, the problem of splicing, methods of deflation, and fundamental relationships between types of index numbers, are also neglected.

The chapters on time series analysis are also in some respects meager in content. The theory of measurement of economic rhythms would have been improved through a clearer presentation of the connection between trend, seasonal, cyclical, and other elements. The treatment of cyclical rhythms is especially limited in both application and method; thus the measurement of the amplitude of cyclical movements is confined to the method of cyclical percentages. For certain purposes, even in the field of price analysis, the reviewer has found it desirable to convert percentage deviations into terms of some standard unit.

Since the authors have largely limited themselves to methodological elements, they would have greatly added to the value of the book as a text by the addition of a chapter bibliography to assist the student in the study of the fundamentals related to method.

ERNST W. SWANSON

Washington, D.C.

Business Statistics. By MARTIN A. BRUMBAUGH and LESTER S. KELLOGG, with the collaboration of IRENE J. GRAHAM. (Chicago: Richard D. Irwin. 1941. Pp. xv, 913. $4.00.)

It has long been the reviewer's conviction that a course in elementary statistics should be required in either the freshman or sophomore years of the school of business curriculum. The purpose of such a course would be to acquaint the student with the inferential methods of statistics so that in good time he will be given an understanding of the nature of business knowledge and, more essentially, so that he will have early guidance to the formulation of a thinking process adaptable to conditions of variability. The text to implement that course by necessity of these requirements would enter into not only the elements of statistical method and theory, but also the principles of investigational methods.

Business Statistics by Professors Brumbaugh and Kellogg most aptly meets the above requisites. With an enviable simplicity the authors relate statistical methodology to elements of the epistemological aspects of variability and sampling and probability theory. Their text is a thorough introduction to methods of measurement of variability, time series analysis, relatives and index numbers, simple correlation, and the elements of variance and sampling. These methods are all built into a broad scheme of statistical investigation of business and economic problems involving errors of observation. Then, by means of illustrations selected from actual business operations, the authors give the student an insight into the approach to a problem, its formulation, the sources and collection of data, inferences upon the data, the solution of the problem, and the presentation of results.

Somewhat unique is a chapter on the use of numbers. It affords a review of fundamental operations in arithmetic. The reviewer welcomes this departure, for it is his experience that the majority of students are deficient in elementary mathematics. On the subject of ratios there are two chapters which are excellent both as to development and application. The authors are to be commended for a simple, but instructive, explanation of the meaning of the normal curve and other theoretical distributions to statistical inference. A well-chosen bibliography supplements each chapter.

ERNST W. SWANSON

Washington, D.C.

Industrial Accounting. By SAMUEL WALDO SPECTHRIE. (New York: Prentice-Hall. 1942. Pp. xi, 243. $3.75.)

Conforming to the current trend of speeding up production, here is an attempt to compress into a text for a single semester the basic principles of general accounting and cost accounting as well. The first twelve chapters (94 pages) are devoted to the fundamental accounting principles; the next eleven chapters (pp. 95-208) cover cost accounting; and the three final chapters deal with the use of accounting data for purposes of controlling expenses, measuring operating results, and in the formulation of business policy.

To cover elementary accounting and cost accounting in 239 pages is a feat of heroic proportions quite in keeping with the times. Large as the order seems to be, its fulfillment has been reasonably well attained. Mr. Specthrie has contrived to make an astonishingly compact and effective presentation. The pace is swift; the material is well organized and effectively written. The problems are fairly short and for the most part good, though many may feel there are too few of them.

In achieving compactness, philosophical and theoretical considerations and discussions of many debatable points have been sacrificed. Many will feel that his statement (p. 12) that "Expenses, taken alone, represent losses and therefore decrease net worth," is an inadequate consideration of the nature of expense. The addition of a column for marginal revenue in Figure 121 (p. 231) would have been of considerable assistance in explaining the particular level of operations under the assumed conditions.

Classroom discussion can supplement these and other points where adequate consideration has had to be skimped because of the need for brevity.

The book is unique, so far as this reviewer knows, in defying all accounting tradition by combining general accounting fundamentals and cost accounting into a text for a single semester. That such a program will keep students well occupied for a semester, few will doubt. Mr. Specthrie has gone a long way toward making it possible for students to accomplish such a project. Where only a single semester course in accounting is possible, particularly in engineering curricula, this text is as good as can be found.

WILLARD C. BEATTY

Brown University

Public Finance; Fiscal Policy; Taxation

American Taxation: Its History as a Social Force in Democracy. By SIDNEY RATNER. (New York: Norton. 1942. Pp. 561. $4.50.)

There seems to be, as a general rule, an opposition between scholarly writing and the more popular writing of the professional journalist. The one, aiming at exactitude, full of qualifications (lest perchance a review by another scholar note the absence of reference to some exceptional case or to some occasional modifying circumstance!) and documented with numerous footnotes, is often drudgery to read. The other, though it may hold the reader's attention, is likely not to be documented at all and is sometimes inaccurate, almost necessarily incomplete (because of lack of space, if for no other reason), and probably more often misleading than the work of the trained scholar.

But Mr. Ratner's study is at the same time scholarly and interesting. The author has a happy faculty of selection of dramatic incidents and striking quotations without neglect of what is truly significant.

Although Mr. Ratner's book is, as its subtitle indicates, a history of American taxation, it is by no means confined to the facts and figures on taxation. On the contrary, it is shot through with references to conflicting interests, opinions, and sentiments and with considerable description and comment on the influence of pressure groups. There is comment, too, on the inconsistencies between or among various pronouncements of the Supreme Court on the income tax and related topics and comment on the pre-membership background and point of view of one and another member of the court.

The author has taken pains to make mention of the writings and pronouncements of many economists whose views are given in the text or whose contributions to the literature of taxation are cited in footnotes. Especial mention has been made of the economists on the matter of financing war. Referring to the problem of financing World War I, the author says:

> Such noted economists as Professors O. M. W. Sprague of Harvard, Irving Fisher of Yale, and E. Dana Durand of Minnesota urged Congress to finance the war, enormously costly though it was, mainly, if not entirely, from taxes collected during its progress. Their argument was that government reliance on loans would lead to an inflation of

credit, a general and rapid rise in prices, an increase in the money costs of the war, a reduction in the real income of the masses, extraordinary profits for a few, and consequent social discontent. To avert these evils and the danger of revolutionary class antagonism, they advocated that the conscription of men should logically and equitably be accompanied by something in the nature of the conscription of current income above that of the pre-war income and that portion of it not needed for absolutely necessary consumption. They favored high progressive income taxes, practically confiscatory of incomes above $100,000. Similar views were given wide currency through the American Committee on War Finance, headed by Amos Pinchot, in its "pay-as-you-go" war campaign. This program was criticized by Professors E. R. A. Seligman and R. M. Haig of Columbia, C. J. Bullock of Harvard, and others as being too extreme, but they agreed that a long-time policy of increasingly heavy taxation, coupled judiciously with loans, was desirable. A large number of distinguished economists in sympathy with the heavy taxation program sent a memorial to Congress setting forth its advantages as against the bad effects of relying too strongly upon bond issues.

And in his final chapter, "America Faces the Second World War," mention is made of the proposals for war financing of J. M. Keynes, Gerhard Colm, Alvin H. Hansen, and others.

Attention is devoted throughout, and at length, to the influence on federal taxation and other financial measures, not only of our various wars, but also of the rise and fall of political parties and coalitions and of the dominating administrative and legislative leaders of each period. Typical chapter headings are "Jacksonian Democracy and Manifest Destiny," "The Populist Revolt," "The Tariff, and the Income Tax," "Pressure Politics and Tax Issues," "Theodore Roosevelt and the Progressive Movement," "Republican Insurgency and Taxation," and "Wilsonian Liberalism and Tax Reform."

Very little attention is given to taxation policy and practice in the separate states. The author has confined his discussion almost altogether to federal taxation. The faults of the general property tax (unless there is implied criticism of this or some other tax or taxes in his sympathetic comments on Henry George), the growing reliance on sales taxes by a large number of our state governments, the increasing use of gasoline taxes, and other matters concerning the financial and tax policies of the separate states, are ignored. This is perhaps as it should be, for the addition of such material with anything like the fullness of presentation given the history of federal taxation would require at least one other equally large volume. A carping critic might indeed contend that the title leads one to expect a broader treatment in this regard, but, after all, a title should be brief and intriguing. It is not essential that it be fully descriptive.

Certain trends in federal taxation are especially emphasized. As the author himself states in his Preface, his presentation "centers on those movements which brought into existence the federal income, inheritance, estate, gift and excess profits taxes," and he has given quite a bit of attention to "their chief rival, the protective tariff."

Mr. Ratner does not try to conceal either his dislike for the tariff or his satisfaction at the trend toward the adoption and extension of the other types of taxation just mentioned. Probably his book is all the more interesting on this account. The coldly dispassionate balancing of one argument against an-

other with no effort to evaluate them and with the studied attempt to appear always "meticulously objective" is perhaps not likely to appeal to a majority of readers. But possibly if the author had included in his study the trend of state taxation in the last decade or two toward very great reliance on sales taxes and toward increasing barriers to interstate trade, which are the kinds of thing he clearly does not like when practiced by the federal government, the tone of his book would have been a few shades less optimistic!

Although, as this reviewer has already noted, the points of view of various professional economists—and others—on the objectives of taxation and how these objectives may be best realized are given some attention, the author gives no extended theoretical argument for or against any of them. No doubt a very few careful and patient readers, unfamiliar with theoretical analyses of the shifting, ultimate incidence and various repressive or other effects of different types of taxes and tax systems, would be aided in their interpretation of the significance of the historical facts, were such analyses included. But books of too great size are forbidding. So, to many readers, is such theoretical analysis. Certainly, an author is entitled to choose his own limits of subject matter, on the basis of his own especial interests and the nature of his own researches.

Mr. Ratner's book is obviously, as his publishers say it is, the result of years of scholarly research. It contains a wealth of historical information. Its numerous footnote references and its extensive bibliography should be greatly helpful to anyone who may wish to pursue the investigation on any particular point or points still further, and it is easy to read.

Harry Gunnison Brown

University of Missouri

The Theory of Incidence of Sales Taxation. By John F. Due. (New York: Kings Crown Press. 1942. Pp. xii, 257. $2.25.)

For several years, the theory of shifting and incidence of taxes has been in need of a thorough overhauling. While economic theory was making great strides, incorporating the contributions of Chamberlin, Robinson, Keynes, and others, and while tax programs were revised to include new forms of taxation, the authors of modern texts in public finance displayed little awareness of these advances, and, for the most part, failed to adapt them to the field of tax theory. Nowhere has this neglect been more marked than in the treatment of all those taxes which Dr. Due includes under the term "sales taxation." Though probably most commodities are today produced and sold under conditions of monopolistic competition, shifting has usually been dealt with as a simple problem in pure competition or monopoly. Moreover, it has been customary to assume that the laws of shifting which applied in the case of specific taxes held with equal validity for ad valorem levies. General sales taxes upon which national and, in this country, state governments have come to depend so heavily, have been dismissed in the discussion of incidence with at most a brief paragraph.

It is true that a few rather brief forays were made by Fagan and Jastram, Haig, Meyers, Robinson, Brown, and some others at one or more of these problems, but it has been Dr. Due's rôle to produce a systematic study of the incidence of sales taxes. The task has been performed admirably. Dr. Due's book will doubtless be generally accepted as the standard and, indeed, the only comprehensive modern work in its field.

After a concise summary of the generally accepted theories of pure competition, monopoly, and monopolistic competition in Chapter I, in which the author acknowledges his obligation to Professor Chamberlin and Mrs. Robinson, he deals in the next three chapters with special sales taxes of the specific type under each of these situations. Since the whole book is devoted to incidence, the definition used is of special interest. Some of the usual vagueness of distinction between "incidence" and "effects" is removed by describing incidence as "the extent to which the real incomes of various economic groups are reduced as a result of the tax." Perhaps it is difficult to think of many effects which do not involve a change in real income for someone. At any rate Professor Groves is answered affirmatively when he asks whether the incidence of a tax on fuel oil rests in part upon buyers of coal, if the latter's price rises because of substitution. Some so-called effects, involving reduced real incomes for persons other than those directly concerned with the taxed article as producers or buyers, comprise part of the pattern of incidence.

The graphic analysis of taxes under pure competition has been much improved, thanks to the contribution of Fagan and Jastram, which Dr. Due has adopted. This reviewer cannot, however, refrain from observing that as a result of the collection of all charts at the end of the textual material, and of the relegation of the copious and indispensable footnotes to another appendix, the reader, who must constantly refer to three different pages simultaneously, will find his task heavy. He will become more discouraged in later chapters where Dr. Due's charts reach the ultimate in graphic complexity.

In a book which seems to have dealt with every possible qualification and refinement, the author may be pardoned a few omissions. The reader may wish, however, that Dr. Due had completed his analysis of the short-run incidence of special sales taxes at least in the cases of monopoly and monopolistic competition by some mention of what has been called the "market" period, a time too brief to permit changes in the rate of output. Under monopoly, a special sales tax may raise price at once, since the net marginal revenue curve will cut the x-axis farther to the left. The treatment of special sales taxes under monopolistic competition in Chapter IV is an important contribution. Those who are not thoroughly grounded in recent value theory, however, would do well to have *The Theory of Monopolistic Competition* close at hand.

Chapter V presents a discussion of ad valorem or gross receipts taxes. It is clear from the analyses that tax policy might well take into account the greater burden which ad valorem taxes usually place upon consumers. The author has recognized a recent controversy as to how best to treat ad valorem taxes, whether as additions to cost or deductions from average and marginal revenue,

or whether as applied to gross price or price net of tax, by discussing all of these procedures.

With his apparent preference for equality of revenue at the new equilibrium as the criterion of comparability of specific and ad valorem taxes, some will take issue. From many points of view, an ad valorem tax applied to price net of tax is best compared to a specific tax which is the product of the ad valorem rate and net price. This, of course, gives equal burdens at the point of impact. This is true because a specific tax of 50 cents on a commodity priced at $1.00 before tax, is equal to an ad valorem tax of 100 per cent on the price net of tax (50 cents).

The conclusion in a footnote to page 92 that elasticity of demand under decreasing cost cannot affect the resultant comparative incidence of specific and ad valorem taxes holds only if comparability is defined in terms of equal revenues at the new equilibrium. It does not follow for taxes imposing equal amounts of burden at the point of impact.

The author is not daunted by the complexity of conditions and the variety of comparable specific and ad valorem taxes to be considered when monopolistic competition exists. With precision and clarity, he deals in turn with absence of excess profits, and with the existence of oligopoly. In both cases, specific taxes tend to be shifted to the full amount of the tax. An ad valorem tax, on the other hand, producing revenue equivalent to that of a specific tax at the new equilibrium, raises price by less than the amount of the tax. The same is true of an ad valorem tax compared to a specific tax which equals the product of tax rate and old price, if excess profits are absent. Dr. Due then concludes that no simple principles can be deduced for the case of ad valorem taxes which impose equal burdens at the point of impact.

The reader will be especially impressed with the chapters on general producers' sales taxes, retail sales taxes, and general sales taxes, the second containing an excellent study of retail pricing. These taxes are usually assumed to raise prices to consumers and to lower interest rates, but Dr. Due introduces Keynesian analysis to show that general sales taxes also tend to reduce output and investment, and, therefore, national income, employment, and savings. Their burden, especially in a mature economy, and in one marked by monopolistic competition, may fall in considerable measure upon those who lose employment. It is not clear, however, that the author's conclusion is correct if the sales tax is enacted as a substitute for some other tax, for example, an income tax. Consideration is not given to the possible reinforcing or counteracting effects resulting from abolition of the former levy. If there is no substitution, the use made by government of the proceeds of the sales tax is significant, and, if the community is supplied with new, publicly provided goods and services, it appears to follow that the general price level including these goods may be no higher than before the tax.

The foregoing comments have, it is hoped, indicated the broad scope and solid logic which characterize Dr. Due's work. The student of general economic theory will profit as much by its study as will the specialist in taxation.

DONALD W. GILBERT

University of Rochester

Federal Tax Course. By George T. Altman. (Chicago: Commerce Clearing House. 1941. Loose-leaf. $10.00.)

While the entire federal tax structure and its workings are covered, this book correctly lays the far greater stress upon the federal income tax. Not only are the statutes analyzed, but even more important, Treasury regulations and leading Supreme Court decisions are taken into account, in the process of developing the background and the current climate surrounding the federal tax laws and their execution.

The course is contained in a loose-leaf book conveniently organized by main divisions—explanatory text, problems and solutions, specimen income-tax returns, and official texts of the regulations. The relevant sections of the Internal Revenue Code, however, are to be found in the accompanying special book, readily available for quick reference. The topical index, table of cases cited, and list of abbreviations and references round out its usefulness.

The book starts with a well-written explanatory text tracing the background and the development of the federal revenue system, showing how our taxes date back to the early colonies; how the tariff was supplemented, and later supplanted, by the internal revenue, especially the income tax; how the courts "relaxed" the English language a little to bring certain exactions within the meaning of tax; and how certain "temporary" taxes became an integral part of our tax structure.

The succeeding section of the explanatory text epitomizes compactly the "authorities" underlying the revenue law—the Revenue acts, other tax statutes and the Internal Revenue Code, regulations and rulings of the Treasury, and the decisions of the Board of Tax Appeals and of the state and federal courts right on up to the Supreme Court.

A discussion of the income tax on individuals and corporations then follows. A résumé of the important constitutional angle is followed by a brief review of the power of states to levy income taxes. Next considered, among other topics, are the classes of taxpayers, tax rates, accounting factors, various items of deductions, and gains and losses. The question of reorganizations is also covered rather fully, as is the question of corporate distributions.

Presented next is a brief, but sufficient, coverage of excess profits and capital stock taxes, excise, sales and similar taxes, and gift and estate taxes.

Following this examination of the fundamental principles of taxation is a 67-page section containing many problems classified in a manner similar to the basic explanatory text. The helpfulness of this section is enhanced by giving also the solutions, against which the student and practitioner can check his work. The problems and questions are especially apt and show an intimate familiarity with practical application of the ruling laws.

Specimen filled-in returns, individual, partnership, corporate, *et al.*, with suggested work sheets and explanatory instructions by the author and the publishers, as well as practice exercises, illustrate further the applicability of this course, not only for the student, but also for those actively engaged in the field.

The broad coverage of this book, its ready utility and utilization, and its

timeliness make it invaluable to the student, lawyer, accountant and tax specialist, and to those in research, business and financial institutions, and as well in government.

JAMES D. PARIS

Great Neck, New York

Money and Banking; Short-Term Credit

Branch Banking: Its Historical and Theoretical Position in America and Abroad. By JOHN M. CHAPMAN and RAY B. WESTERFIELD, with special chapters by GILBERT E. JACKSON and MAURICE MEGRAH. (New York and London: Harper. 1942. Pp. xi, 431. $4.50.)

There are few aspects of the branch banking question that Professors Chapman and Westerfield have by-passed in this treatise. Evidently their intent has been to construct the definitive case for branch banking. Its historical development in the United States, its performance here and abroad, and its technical structure are examined in detail. The conclusion in every instance is that ". . . only branch banking, on a trade-area-wide or nation-wide basis, will solve the banking problem in the United States. . . ."

The authors divide the history of branch banking in this country into four periods. The first extends from the establishment of the first Bank of the United States in 1791 to the establishment of the national banking system. The lesson of these years is that branch banking succeeded wherever it was undertaken with appropriate safeguards and proved itself to be well adapted to service in a frontier community. That it did not displace unit banking is attributed to the political appeal of free banking with bond-secured issue. In the second period, between the National Bank act of 1863 and the adoption of state-wide branch banking by California in 1909, branch banking languished less because of active opposition than because of special favors showered upon unit banking in the campaigns to remove abuses of the wild-cat era. It suffered from neglect rather than from active maltreatment.

In the third period, 1909-1933, selfish group action against the public interest prevented reconstruction of the banking system in the image of the Canadian and British systems. In succession the Federal Reserve act, the McFadden-Pepper act, the Banking act of 1933 and incidental enactments, put "artificial, arbitrary, and inequitable restraints" upon branch banking and perpetuated the "multitudinous unit bank structure that had proved beyond all dispute its utter inadequacy." Since 1933, in the fourth period, the development of deposit insurance has frustrated the evolution of branch banking: vested interests retain for unit banks a public favoritism over branch banks. Ignorance and avarice have retarded effective reform of the commercial banking system for a century and a half, but the logic of economic development eventually must clear the way for multiple-office banking under national supervision exclusively.

Professors Chapman and Westerfield admittedly do not prove their thesis that the branch structure is our financial salvation from the American data on, say, bank failures. Their proof takes the familiar line: American bank failures have been excessive; the American banking system is peculiarly a unit system; the unit system is at fault. It is demonstrated with the assistance of guest authors, who supply the concluding chapters, that branch banking has succeeded abroad, that financial requirements elsewhere do not differ radically from our own, and, hence, that branch banking can be transplanted to the American environment. The guest authorship, incidentally, achieves somewhat greater success in the use of statistical data on branch banking than is typical of the remainder of the volume.

Most of the volume has been devoted to minute description of the administrative design of typical branch organizations and to compilation of *a priori* argument on the superiority of the branch structure in resisting failure, mobilizing bank funds, providing bank services to depositor and borrower. The reviewer has noted omission of very few considerations that conceivably might arouse enthusiasm over the branch structure. For tactical purposes the authors might have been advised not to urge in the case for branch banking that ". . . when big banks totter the public authorities go to much greater lengths to prevent failure, and . . . this is particularly true of branch banks."

It is probable that Professors Chapman and Westerfield did not intend their volume for readers who may be well versed in banking history and theory. In part this conclusion follows from the frequent and colorful castigation of interests who oppose liberal treatment of branch banking: the language often is in the tradition of the pamphleteer. Moreover, there is a degree of antiquity in the argument that affects its contemporary scientific interest. The authors allege that nonmember banks have no direct access to the lending facilities of the Federal Reserve, and there is no consideration of the bearing which accumulation of government securities in bank portfolios may have upon reformation of the banking structure. None of the critical issues of monetary policy of the past decade is related to the central theme of structural reorganization in the commercial banking system. One is warned against expecting analysis along this line by the assertion that the Federal Reserve System was an "awkward, expensive, and inefficient" substitute for a "series of large nation-wide branch banks, in competition with one another and subject to government supervision." The reader will be interested to note how very large a proportion of this volume resembles closely the banking literature of the era immediately preceding passage of the Federal Reserve act.

E. S. Shaw

Stanford University

Banking Studies. By Members of the Staff of the Board of Governors of the Federal Reserve System. (Baltimore: Waverly Press. 1941. Pp. x, 496. $1.50.)

This volume, written by fourteen members of the staff of the Board of Governors of the Federal Reserve System, contains seventeen short papers

ranging in length from fifteen to thirty pages and dealing with various aspects of money and banking in the United States. The purpose, plan, and scope of the volume are accurately described by the following passage from the Preface:

> The purpose has been to present in brief form and simple language the substance of a large mass of information bearing on banking and monetary problems that the Federal Reserve System has accumulated during its quarter century of operation, and particularly during the past decade.
>
> Although in a field as controversial as this it is impossible for an author to remain entirely neutral, the aim throughout has been to present the material in an objective and impartial manner. The seventeen papers cover a wide range, and therefore inevitably traverse ground that is beset by controversy and sharp differences of opinion. The authors of the studies have specialized in the particular subjects of which they write, and in the preparation of their papers they have sought to present facts and not opinions. These studies, while assembled in one volume, were not intended to be a series of related chapters of a book, but to be, as the title indicates, separate studies of some of the most important aspects of this country's banking and monetary system and of the role that it plays in the functioning of the economy.

The variety of the subjects treated is indicated by the titles of the papers: "Historical Introduction," by Bray Hammond; "Federal Banking Legislation," by Walter Wyatt; "Currency System of United States," by Victor M. Longstreet; "Banking Structure of United States," by John E. Horbett; "Branch, Chain, and Group Banking," by C. E. Cagle; "Credit and Savings Institutions other than Banks," by David M. Kennedy; "Commercial Bank Operations," by Roland I. Robinson; "Supervision of the Commercial Banking System," by Robert F. Leonard; "Policy and Procedure in Bank Examination," by Leo H. Paulger; "Public Nature of the Reserve Banks," by E. A. Goldenweiser; "Operations of the Reserve Banks," by Edward L. Smead; "Deterrents to Membership in the Reserve System," by E. Magruder Winfield; "Money System of United States," and "Monetary Controls," by Woodlief Thomas; "Work of the Board of Governors" and "System Organization: Determination of Credit Policy," by Carl E. Parry; and "Instruments of Federal Reserve Policy," by E. A. Goldenweiser.

It is difficult to evaluate these papers, owing to the strict limitations that the authors have imposed on themselves. In the first place, the papers are all short, so that only the most important aspects of each subject can be discussed and they only briefly. In the second place, the authors do not attempt to make original contributions but only to present materials already gathered by the Board of Governors or others. If students of banking find little here that is new to them it will be in large part a tribute to the past research and publication by the Federal Reserve System, and particularly by the Board. And in the third place, the authors have sought to present facts and to avoid opinions and controversies. This is perhaps the most striking characteristic of the volume. The authors are willing to review historical events, to explain legal limitations, and to describe the structure, organization, and mechanics of institutions. But not only do they refuse to advance their own opinions and to engage in controversies; they largely ignore the existence of controversies and of proposals for altering existing institutions and policies, and they shun evaluation and criticism.

Their reticence is far greater than mere objectivity and impartiality would require. For example, though Mr. Cagle gives an excellent summary of the legal status, development, location, and present magnitude of branch, chain, and group banking in this country, he never mentions the bitter controversies that have centered upon the forms of banking organization and that have played such a large part in shaping the legal limitations on them. Neither does he discuss the abuses that led to some of the legal limitations mentioned, nor the relationship between the form of organization and the manner of functioning, nor the arguments that have been urged for and against the various types of organization. Mr. Wingfield presents a good summary of the positive and negative deterrents to membership in the Reserve System, but he never mentions the fact that many people are in favor of requiring such membership as a condition of engaging in commercial banking. In his paper on credit and savings institutions other than banks, Mr. Kennedy includes the federal credit agencies and even a section on the influence of nonbanking institutions on banks, but he carefully avoids discussing their direct competition with banks, saying, "No attempt will be made to show individual situations where a given institution or a particular type of loan is in direct competition with banks" (p. 161). The section leaves its reader without an adequate appreciation of the impact of these institutions on banks.

Several of the papers describe the types of assets actually acquired by the commercial and Reserve banks and the changes of these in recent years, but the controversy as to the appropriate types of assets for these institutions is almost completely ignored. Mr. Parry's discussion of the shifts in the location of control in the Reserve System would be more valuable if he had devoted more space to the disagreements and delays that occurred before the supremacy of the Board became established. Likewise, Mr. Goldenweiser's discussion of the instruments of Federal Reserve policy and the limitations on their effectiveness would be more useful if he had at least mentioned the central banking powers now possessed by the Treasury and had indicated the necessity of coöperative action if the maximum effectiveness of monetary control is to be attained. The reader of the paper as it stands is likely to underestimate the central banking powers in the hands of the Federal Reserve and the Treasury together, and he is left innocent as to the problem of future Treasury-Federal Reserve relationships.

The description of the limitations that the authors have placed on themselves indicates the scope of the usefulness of the volume. Specialists in banking will find little here that is not already familiar to them. The papers should, however, be useful to laymen, undergraduates, graduate students, and economists who are not specialists in this field. These readers will find here short accounts of some, though by no means all, of the most important events in our monetary and banking history, a general description of the structure of the financial institutions of this country with special emphasis on banks, a survey of the structure, control and function of the Federal Reserve System, and a description of the public supervision of banks. They must realize, however, that when they finish the volume they will have added little to their knowledge

of the current controversies, issues, problems, and suggested reforms in the fields of money and banking and that the experts will have given them little guidance through this maze of issues. But what the authors have done has been done well.

A few specific criticisms must be made. More careful editing could have eliminated wasteful overlapping and increased the unity of the volume. This is particularly true of the first three historical papers and of the papers dealing with the Federal Reserve. Mr. Longstreet's neglect of coins in his history of currency is so striking as to lead one to wonder whether he, like later writers in the volume, includes coins as well as paper money under the heading of currency. In his discussion of the difficulties of defining money (pp. 296-303). Mr. Thomas should have pointed out that all types of assets, and not only "liquid" assets, possess in varying degrees some of the attributes of money. There is also a real danger that readers of this paper, especially of the section on page 303, will be led to underestimate the differences between the consequences of changes in the supply of currency and deposits and of the supply of less liquid assets. In his treatment of the objectives of monetary regulation, Mr. Thomas correctly points out that, "Limitations imposed by rules designed to assure convertibility, however, are not necessarily suited to the broader objectives of economic policy and have at times operated in conflict with more desirable aims" (p. 335). His own statement of objectives is not especially helpful, however. "The aims of monetary regulation are, within the limits of its powers, to safeguard the soundness of the monetary and banking system, and to direct the activities of that system along lines that will promote the attainment and maintenance of a high degree of national well-being" (p. 336).

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The Federal Reserve Bank of Richmond. By CHARLES G. COIT. (New York: Columbia Univ. Press. 1941. Pp. xv, 140. $2.00.)

Mr. Coit opens this study, which is one of a series appraising the operations of the twelve Federal Reserve banks, with the statement that its purpose is to determine the success of the Federal Reserve Bank of Richmond as a regional bank in the light of problems which are solely peculiar to this bank. How an investigator can isolate one of the basic institutions of the Federal Reserve System and then proceed to disclose its success or failure is much of a puzzle to this reviewer. The puzzle is not solved by reading the eight chapters of Mr. Coit's book, for they seem to indicate on his part little more than a hasty survey of the resources and activities of the Fifth Federal Reserve District followed by a long-range analysis of whatever publications have been issued by the Federal Reserve authorities and other agencies. There is no evidence of a thorough, painstaking study of the business and banking affairs of the Fifth District since its establishment.

Chapter I, dealing with the economic background of the study, overempha-

sizes the importance of cotton and tobacco, and presents no analysis of the industrialization which has occurred in the last few decades in the various states comprising the Fifth District, and which has caused manufacturing to contribute 57 per cent of the total income for the entire area. No evidence is presented to support the author's assertion that "an inadequate supply of short-term bank credit" existed in the district. Furthermore, the statement (p. 15) that high rates of interest to farm owners are responsible for the appearance of federally sponsored agricultural credit agencies is surely mistaking a mere symptom for a real cause.

Chapter II is concerned with the banking background of the study. It reveals little intimacy with the growth and present status of state and national banking in the Fifth District. Since several pages in an all too short chapter of 15 pages are devoted to banking conditions prior to the Civil War, much of the material of the chapter can hardly be regarded as being relevant to the problem of determining the success or failure of the Federal Reserve Bank of Richmond.

The most important chapter of the study, which relates to the operations of the Richmond bank, reveals nothing more than what one can find in the various published sources. Since the minutes of the meetings of the bank's directors were not open to Mr. Coit, no contribution could be made at this point in the study. The statement (p. 47) is made that Federal Reserve agents had considerable power in shaping reserve bank policy, but it is not supported by the author. Furthermore, nothing is said about the agent's rôle in the Fifth District. The assertion (p. 60) that after March 6, 1934, United States Government obligations could be used as collateral up to 60 per cent of outstanding Federal Reserve notes is erroneous, since they could be used as collateral up to 100 per cent of outstanding notes.

The accusations that the Federal Reserve Bank of Richmond "lacked initiative" in developing its own rediscount policy, and that it relied on the New York bank too much are supported by no reasons why the Richmond bank should have developed a more independent rediscount policy. Might it not have been desirable for the Richmond bank to accept the leadership of the New York bank? The burden of proof to the contrary lies with the author, but no such proof is attempted in this volume.

Chapter VI on bank suspensions and public supervision is a superficial analysis based on published Federal Reserve data and a few scattered works of earlier investigators. There is no evidence of any original, independent investigation by Mr. Coit. His very broad generalization (p. 82) that a rapid decline in the prices of tobacco and cotton caused an increase in bank failures is not very revealing. A statistically inadequate treatment is applied to the loans and investments of failed banks (p. 84).

Mr. Coit's conclusions, appearing in Chapter VIII, amount to no more than a résumé of all the preceding chapters. Since the earlier chapters do not show whether or not the Federal Reserve Bank of Richmond has been a success, the concluding chapter leaves the reader with the realization that the author has not answered the questions which he has raised. It appears that the author

relied too heavily on published private and governmental reports and too lightly on original, independent investigation of his own.

Throughout this volume there are some very unnecessary errors in the footnotes and the bibliographical listing. For example, on page 18 a citation is made from a July, 1931, *Analysis of American Tobacco Company* to support a statement relating to 1933 tobacco statistics. On pages 88 and 129 reference is made to this reviewer's publication entitled *State Bank Failures in Virginia.* No such book has ever been published, and the reference should be to the reviewer's *Supervision and Control of Virginia State Banks* published in 1937. The same error is repeated in the bibliography, where also W. Randolph Burgess is referred to as W. H. Burgess and the title of Burgess's well-known study of the Federal Reserve banks and the New York money market is incorrectly given.

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International Trade, Finance and Economic Policy

America's Trade Equality Policy. By HUGH O. DAVIS. Introduction by WILLIAM S. CULBERTSON. (Washington: Am. Council on Public Affairs. 1942. Pp. xii, 137. Cloth, $3.00; paper, $2.50.)

The British Tariff Movement. By MARVIN E. LOWE. Introduction by P. W. BIDWELL. (Washington: Am. Council on Public Affairs. 1942. Pp. 133. Cloth, $2.50; paper, $2.00.)

These two books are significant contributions to the history of important aspects of the commercial policies of two great trading nations. Dr. Lowe's book is based on a doctoral dissertation submitted to the University of Illinois and Dr. Davis's on a Harvard thesis. Both are published by the American Council on Public Affairs, which has recently embarked on an ambitious program of thesis publication. This program deserves commendation because, in the present cases at least, both theses show great industry and it would have been a misfortune to have relegated them to the oblivion of their respective university libraries. With the exception of the fine print used for the quotations in Davis's book (where nearly 700 words are crowded on one page in several cases) the typography is satisfactory, and though both bibliography and index are omitted the books are well documented.

Dr. Davis's book traces the development of the most favored nation clause in the United States from the first commercial agreement signed with France in 1778 to the application of the clause to the trade agreements negotiated by Secretary Hull under the Reciprocal Trade Agreements act of 1934. Most students of American commercial policy are familiar with the change from the conditional to the unconditional interpretation of the clause effected by Secretary Hughes in the Brazilian and German treaties of 1923, but Dr. Davis's painstaking study reveals many interesting details. Although the United States held to the conditional interpretation of the clause before 1923 (indeed, this

was the only interpretation the courts would allow), a number of treaties containing the unconditional statement of the clause were signed. For example, eight of the fourteen treaties concluded in the period prior to 1829 contained the unconditional form of the clause. Further, although the unconditional form of the clause was adopted after 1923 (and supported by the courts), the effects of this change were mitigated for a time by the contingent duties of the 1922 and 1930 tariff acts and by the high rates of our autonomous single column tariff. The Reciprocal Trade Agreements act of 1934 repealed the contingent duties and reduced the American tariff, but the change came after most of the other nations of the world had embarked on policies of discrimination and autarky. Whether the conditional or unconditional interpretation of the clause was followed, however, the dominant features of American policy was equality of treatment.

Dr. Davis's book shows careful scholarship, but it is not easy to read. The first part of the book in particular is burdened with long, and to some extent repetitious, quotations phrased in legal language and printed in type so fine as to tax the patience of most readers. The discussion of the application of the most favored nation clause in the Hull trade agreements program is brief and in some cases unsatisfactory, as, for example, the glib assumption (p. 118) that the representative period formula completely solves the problem of the application of equality of treatment to quantitative controls. Professor Culbertson's "introduction" is not actually an introduction to the book but a detached essay outlining his efforts to secure the adoption of the unconditional most favored nation clause with a rigid limitation on permissible regional exceptions.

Dr. Lowe's book is not a complete British tariff history, but covers the period from 1910 to March 1, 1932, in great detail. It was during these years in particular when the English tariff reform group worked so assiduously to secure (and finally succeeded in securing) the adoption of a general tariff. Instead of giving a tiresome reiteration of the legislative enactments and administrative orders affecting the tariff during this period, he describes the pressure group activities and ideological forces which shaped the governmental action. The description is ably given and should be carefully digested by students of recent British commercial policy who fail to realize that the roots of British protectionism go much deeper than the depression of the 1930's.

The major defect of the work is its lack of interpretation. Since the book was written by an historian one should not quarrel with the obvious (and, indeed, intentional) lack of economic analysis. The historian, however, loses much of his usefulness when he becomes a mere chronicler of events. The Labour party turned about face and gave its tacit consent to protection; the great bulwark against protection, the Liberal party, lost large numbers of its middle-class voters to Tory ranks and then disintegrated; the Conservative tariff reform group had its way and imposed a general tariff. These are momentous events and Professor Lowe has told them in greater detail than

before. The unfinished task is to submit them to careful critical analysis. Another defect of the book is its wholly unwarranted reliance upon journalistic sources. Nearly two-thirds of the footnote documentations are to the London *Times*. Although this newspaper is undoubtedly a fertile source of historical information, one can scarcely justify using it instead of Hansard in quoting from Parliamentary debates, or instead of the *Board of Trade Journal* and Parliamentary Command Papers when referring to official pronouncements.

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Public Control of Business; Public Administration; National Defense and War

The Unfinished Task: Economic Reconstruction for Democracy. By LEWIS COREY. (New York: Viking. 1942. Pp. xiii, 314. $3.00.)

This book may well be a landmark in the current retreat from the Left. It is a powerful denunciation of statism and political romanticism, a plea for dispersion of power, and a defense of essential features of the old order as requisites of freedom and democracy. Corey still writes as a socialist; but he repudiates all doctrinaire, radical, revolutionary schemes.

In his antistatism, his fear of power concentrations, and his insistence on separation of economic and political power, Corey comes close to traditional economic liberalism. His positive, practical proposals, however, leave him far removed from that (or any intelligible) position. While his many disaffirmations are rested on sure insights and fundamental considerations, his positive position, in my opinion, is politically complacent, opportunist, exasperating in its vagueness, and largely based on dialectical witch-hunting rather than upon significant diagnosis of institutional anomalies. There are no end of good things in this book; but I shall here focus attention on what strikes me as foolish and wrong. My attack, of course, is that of a dogmatist and doctrinist, convinced that there is no defensible middle ground between totalitarian absolutism and orthodox liberalism or, at least, that Corey, misguided by his own rhetoric, has only rediscovered and espoused a syndicalism or guild socialism which, by name, he disavows.

As political economy, Corey's pages are long on good political philosophy and on bad economics. Repudiating Marxism, he remains essentially Marxist in his explanation of depression (his only real venture into economic analysis and perhaps the core of his confusion). The main ideas will be familiar to *New Republic* readers. At bottom, is the mature-economy hypothesis—a drastic narrowing of investment outlets as we approach abundance!—and chronic over-saving which, in turn, is attributed to monopoly profits and excessive capital charges of the great corporations. That this "analysis" differs little in substance or import from doctrines now preached from the best academic pulpits must, in fairness to Corey, be duly conceded.[1]

[1] Corey, however, dissociates himself from the proponents of compensatory deficit spending, stressing the political dangers of inflation and of other repudiation devices. In

Corey's good society is one of public corporations (which would displace all great private companies), of labor organizations with unlimited powers, of free capitalist enterprise in medium and small scale business and agriculture, and of over-all federal economic planning. Thus, his only drastic proposal concerns big business—as he tentatively puts it, some 1,000 companies. Here he faces a conundrum: how to socialize without governmentalizing. Like Lange, he purports to have found the answer in formal decentralization. This is the crux of Corey's scheme—and I can make no sense of it whatever. Federal (or state or municipal) ownership, with politically responsible control, makes sense; so does private ownership and control, disciplined by competition. Corey pretends to see something in between; but, try as I will to understand him, I simply cannot make it out.

The great corporations, it seems, need only be turned over to boards representing predominantly their technical-administrative personnel, with minority labor representation and some (purely formal?) representation of consumers and others. The government will not be represented at all but will impose over-all planning direction. (Planning is stressed throughout the book; but the word is invariably used to connote wise, benevolent guidance from above and without issue-raising or discussable denotations.) I cannot surmise what Corey has in mind, if anything, by way of division of function or power between the boards and the planners, although he tells us that interference from above will be quite limited. One hears nothing of the nature or structure of the planning agency or of its policy problems. Everything is to be ordered by a "new constitutional framework"—a beautiful conception surrounded by inspired rhetoric but, like planning, nowhere described or defined save as the realization of all our wishes and hopes. How the responsible technical-administrative personnels are to be selected and ranked is not discussed at all!

Evidently one need only grasp the general idea (*à la* Veblen and the technocrats) of releasing now frustrated technical managers from subservience to financial interests (including the Treasury?), so that they may create profitless abundance instead of profitable scarcity. Engineers want to produce; workers want to produce; only the financial oligarchy stands in the way. Owners must not be expropriated but must be removed from control (which they have already lost). The Treasury must pay off present owners but must not load the new corporations with old capital charges. The public corporations should pay for any new outside capital, but interest on reinvested earnings must not be treated as a cost (which, I submit, is nonsense).

On financial questions generally, Corey's writing has run far ahead of his thought. The argument bogs down repeatedly in confused distinctions between interest and profits. Nowhere does he intimate how new investments should be allocated among the public corporations or what should be done with their

general, he gives almost no attention to monetary problems—or to taxation. Like the *New Republic,* he evidently believes that "purchasing power" is merely a distributional problem—a problem of monopoly profits and of wicked corporate restriction of employment and output. What I might offer here by way of comment on Corey's depression theory would mainly repeat what I have written recently in a review of Professor Hansen's latest book. See my "Hansen on Fiscal Policy," *Jour. of Pol. Econ.,* Vol. L (Apr., 1942), pp. 161-96.

net earnings (or losses). Indeed, he cannot decide whether they should earn anything on their capital or not. Having frequently implied that they should not, he finally concedes in a footnote that possibly they should earn something, in order to guard against their competing unfairly with private firms. The oversaving problem is to be solved by extirpating monopoly profits; but I cannot see that substitution of government bond interest would "improve" matters, save to the extent of a partial expropriation which is not suggested or defended. (My guess is that the public would actually pay present "monopoly profits" thrice over, once as federal bond interest to the old owners, once as higher prices and more monopolistic wage rates, and once as corporation deficits covered by the Treasury.)

Corporate imperialism and private collectivism do present our politically urgent economic problem. Corey misconceives and exaggerates the technical, economic importance of enterprise monopoly; but its political importance can hardly be overstressed. Much can be done about it, and easily; and we shall make little headway against other and greater problems until we rid ourselves of the needless concentration of power which corporate states and federations have visited upon us. I agree with Corey that the problem is mainly one of organizational size. But I deny that it is a matter of technically desirable size, or that the dissociation of ownership and management is (as he asseverates) of fundamental importance.

Corey, attributing trade restraint to monopoly capitalists, would extirpate it merely by transferring their power into other hands. I look at the same phenomenon and am impressed by the great variety of measures and approaches necessary for effective reform. There is (1) the special problem of the utilities. (Corey, following Berle and Means, nowhere distinguishes them from other industries and, thus, gets a fine rhetorical effect from misleading statistics.) Here effective competition is impossible; and, among possible devices of political control, Corey's scheme has much to commend it. There is (2) the problem of patents and patent pools which call for prompt and, I suspect, radical reform—perhaps, indeed, for abolition of private property in technical knowledge. There is (3) the holding company device—which has been restricted only in the area where it matters least. Next perhaps come (4) the great horizontal combinations and the opportunities for wholesale dismemberment which scarcely touches managerial or productional organization. Then there are (5) the great vertical combinations where immediate technical economies, if any, are purchased too dearly in power concentration which, undermining competition, removes the best guaranty of long-term efficiency. Somewhere we must face (6) the task of removing those decisive advantages of size which, while very real for private firms, are unreal and negative for the community, namely, the mere selling advantages. We should consider seriously the case for greater enterprise specialization, not only among phases of production but also between manufacture and selling. Above all, we must face the task of promoting consumer education, of developing better standards and testing, and of providing competent, disinterested, accessible information and consumer counsel. Small firms cannot attain or maintain their proper place

in our economy, against big names, national ballyhoo, and powerful sales organizations, unless armed with convincing quality certifications (of governmental or endowed, nonprofit agencies) for their products. There is (7) the important monopoly of organized small retailers, whose power is revealed in recent "fair-trade" legislation, in organized pressure for wider margins in price-maintenance contracts, in discriminatory taxation, and in the elimination of "chiselers" *via* boycott threats against their suppliers. We need also recognize (8) a relation between labor organization and industrial monopoly—that labor and enterprise monopolies tend to complement one another and mutually to implement joint special interest in trade restraint. Finally, there is (9) the tariff problem and the large opportunities for mitigating domestic monopoly by tariff reform.

This long digression is intended to suggest that monopoly is a protean thing, not amenable to simplistic analysis and not correctable by simplistic schemes, and to indicate what Corey does not discuss. Bent on exorcising devils, whom he hastily identifies as monopoly capitalists, Corey nowhere comes to grips with real or substantial aspects of the monopoly problem; and he offers no substantial reasons for believing that his proposed measures would in any way, much less on balance, diminish trade restraint.

On any meaningful and realistic interpretation, Corey is merely urging us to rush along faster into a chaotic civil war of mass functional minorities which is the likely prelude to absolutism here. Trusting technical-administrative groups with large (nominal) power, he naturally devotes several passages to confuting Burnham. Despite the confutation, I am, like Corey, not mainly worried about his managerial planners, either in Washington or in Pittsburgh. What he fails to see is that both his managers and planners will be impotent against functional pressure groups (workers and farmers) and unable to retain power save essentially as representatives or lobbyists for minority special interests.

Public corporations have merit for implementing desirable socialization; but it is merely silly to regard them, widely used, as means for avoiding political, bureaucratic, or centralized control. (I immediately visualize Mr. McNutt being installed as chairman of the Steel Board, in part payment for his votes in the next Democratic convention.) Managers who attain power presumably will cherish it; and nominal decentralization is likely to mean even more flagrant disregard of common public interests than is customary among centralized governments, representative and other. Corey's managers, freed from responsibility to owners, would necessarily become responsible to their respective labor organizations. Managers, wishing to remain managers, would naturally seek to maximize monopoly profits for payment as differential wages to their workers, established in acquired skills and seniority status and fully insulated against the competition of their less fortunate brethren outside.

Deploring concentrations of power, Corey refuses to see the most important current trend in that direction, or to recognize the utter conflict of interest between particular "free unions" and the general public, consumers, and labor

as a whole. Corey calls upon labor to abandon restrictive practices, while explaining them as mere contaminations or perversions of unionism under monopoly capitalism. This is a standard rhetorical trick; but it amounts to wishing away a mountainous difficulty. Vast labor organizations, along occupational or industrial lines, do and must have enormous monopoly power; and no reasonable person will expect them not to use it if they have it. Against Corey's absolute of freedom of (labor) association, one may soberly emphasize freedom of occupational migration (freedom of entry, equality of opportunity) and recognize that these "absolutes" must qualify and limit one another; they are incompatible goods. The right of association, in a democracy, must everywhere be qualified and limited by prohibition against monopolistic association, and for all groups or "classes" equally.[2]

It is disturbing, in these days, to read a reformist tract which scarcely mentions world problems or commercial policy and never really considers domestic problems in a larger framework. There are, to be sure, frequent castigations of capitalist imperialism—which have an ancient, hollow ring and will seem disingenuous indeed to readers acquainted with competent discussion and research of recent decades. In passing, Corey happily forecasts that "loans from one country to another will be made on a planned, democratic governmental basis"—a development which promises to recapture all that was worst in the past. On the other hand, he evidences no interest in tariff reform or in free foreign trade as a first requisite of enduring world order. Thus, trying to win the peace, we shall get little help from Corey and, I fear, less than none from his good people, the technical administrators and trade-unionists.

I wish that space permitted here a long list of quotations, sampling the good things in Corey. His book is inordinately repetitious. It neglects nearly all economic problems save monopoly which, in turn, receives only superficial, journalistic, dialectical treatment. On the other hand, as practical political philosophy, it bristles with fine aphorisms and brilliant short passages which on balance will reward substantially the patient reader. Even the long rhapsodic passages, while annoying as descriptions of what his own schemes would accomplish, do serve to indicate, with pardonable extravagance, what the future does hold for us if the victorious democracies should make wise policy decisions when the war is past.

The best and worst than can be said of Corey is that he has wisely conceived and described the broad, essential outlines of the good society; and that he

[2] In this connection, reference may be made to recent discussions: an article "The New British Industrial System," by E. F. M. Durbin, in *Harpers Magazine,* March, 1942, esp. p. 412; and a communication by Albert G. Hart, in *Social Change,* September-November, 1940, pp. 45-46. The latter item is important on its own merits, but also as criticism of statements by Professor Oskar Lange not unlike those of Corey—criticism which Lange concedes to be sound. (*Social Change,* March, 1941, pp. 37-38.)

Our wartime experience (which Corey, always seeing the same devils, contrives to interpret as a tribute to unions) suggests how hard it will be (and has been) to prevent strong unions from sabotaging peacetime prosperity—from blocking adequate investment and employment when astronomical deficits are no more. If inordinate demands of labor and farmers cannot be resisted in the face of inflation and dire national peril, the peacetime outlook is indeed discouraging.

has failed utterly in his efforts to direct us toward it. As political philosopher and practical reformer, Corey is completely at odds with himself. In the first capacity, he is a new man and a good one; in the second, he is the same old Corey, writing as though for the *New Republic* and getting on nicely with arch statists like Lerner and Laski.

The book reveals clearly, to discerning readers, the dilemma or eternal contradiction which pursues those who hold to leftist persuasions and yet refuse to accept the organizational forms and the concentration of power of the totalitarian state. In this respect, it is typical of most recent political discussion, both among socialists who would halt the revolution short of absolutism and among apostate liberals who, counseling political realism and pure appeasement in domestic policy, deplore or ridicule proposals to stop it now. From both sides, our ideological refugees have flocked into the no-man's-land where Corey now takes his stand. Rightist and leftist, our intellectuals shrink from opposing or condemning candidly the prevailing syndicalist trend or the extreme economic nationalism which that trend necessarily involves. We shall have no peace or security or abundance unless we give up the whole business of organizing to take things from one another, as nations and as minorities within nations, and get back to our proper democratic tasks of producing and exchanging goods by the peaceful, coöperative methods of international and intranational free trade. The first requisite of a tolerable post-war world is wholesale economic disarmament. Corey would disarm the devils but not the angels—which strikes me as a scheme for making devils of them all.

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The Road We Are Traveling, 1914-1942. By STUART CHASE. (New York: The Twentieth Century Fund. 1942. Pp. 106. $1.00.)

It is not possible to judge fairly this new work by Stuart Chase, inasmuch as it is but the first of a six-volume study designed to deal with the economic problems of post-war readjustment in America. The main body of positive analysis is presumably to follow in the succeeding volumes.

This first volume undertakes to lay the groundwork by a brief survey of the important social and economic trends of the period since the beginning of the First World War. The form of treatment which Mr. Chase adopts for his study is not one which lends itself well to careful analysis or to detailed criticism. In an effort to analyze three decades of experience both here and abroad, he has resorted largely to an impressionistic rather than an analytical approach. His conclusions are more stated than supported, and he makes extensive use of the device of highlighting selected historical events, set forth in kaleidescopic fashion, to present a theory of development which is often never explicitly stated or explained, but only implied. It is interestingly and entertainingly written, and Mr. Chase has done a good job of weaving together a broad range of facts and ideas. The result, however, cannot be said to be instructive.

How commonplace is much of its content can be illustrated from the conclusions. Mr. Chase finds that we have experienced an advance in technology, a halting curve of population growth, a closing frontier, growing interdependence, a gathering threat of unemployment, a decline in investment opportunities, a decline of a free market, a growth in propaganda, an advance in mechanized warfare, a growing domination of central governments, an advance of autarchy. He concludes further that in the post-war period we shall face problems of employment, investment, excess capacity, finance, money, foreign trade, agriculture and politics.

These problems, he holds, we shall be unable to solve by a return to "business as usual," because, "Everybody admits that business as usual will not work in wartime. The record shows that it will not work in depression . . ." (pp. 94-95). In fact, this move away from free enterprise into "X," which Mr. Chase predicts for the future, he finds has been going on for some time, certainly for the past decade. His definition of "X," which he considers clearly different from private enterprise, comprises a range of governmental controls some of which are a product of the New Deal, but many of which are of much earlier origin—the control of banking and credit, foreign trade, natural resources, energy resources, transportation, agriculture, communications. Precisely how this differs from "free enterprise," and exactly what it is to which we cannot return, Mr. Chase does not make clear in this first volume. Nor does he show, beyond stating the proposition, why we must inevitably resort to more comprehensive governmental controls, nor the kind of world to which we must accustom ourselves. We will have to await the later volumes for a clarification of these points.

As illustrative of the type of treatment which Mr. Chase accords important issues of economic policy, the following are typical. An absolute increase is cited in the number of people engaged in retail and wholesale distribution during the period 1919-1929, without any indication how these figures relate to population or production increases (p. 31). The problem of wartime spending is dismissed with the observation, "Where's the money coming from? Nobody gives a damn" (p. 50). In considering the question of the virtues of various forms of governmental control, Mr. Chase concludes: "Whether a planned economy can make people happier than a system of free enterprise is open for debate. That planned economies are coming so fast you can hear the wind whistle around their edges, is not a debatable proposition" (pp. 58-59). Later he cites as a part of the "uneasy peace" following the First World War the fact that "other countries expanded their programs of social legislation" (p. 60). In analyzing the problem of technological advance, he concludes: "A very loose generalization might be that a moderate injection of inanimate energy into an economic system produces capitalism, and a great deal of it produces collectivism" (p. 61). His concept of the frontier is limited to the geographical (p. 65). His explanation of the business cycle is that: "Depressions come chiefly from failure of opportunities for investment, thus closing down the heavy industries, and presently careening the whole economy. Failure of investment opportunities is tied up with population trends, the frontier and technology again" (p. 68).

With Mr. Chase's goals of security in terms of jobs, income and prestige, no quarrel can be raised. He leaves unsettled, however, the question of the best means for their achievement. His oversimplified notion of *laissez-faire,* which he takes to involve only the most rudimentary forms of governmental action, makes his observations on the limitations of "private enterprise" of little importance. He is battling with words not ideas in this appeal to a common prejudice.

It is to be hoped that the succeeding volumes will make more clear what specific lines of public action Mr. Chase advocates to accomplish the objectives which he supports, and the precise reasons why he favors them.

VICTOR ABRAMSON

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The Economics of Total War. By HENRY W. SPIEGEL. (New York and London: Appleton-Century. 1942. Pp. xiv, 410. $3.00.)

War Economics. By EMANUEL STEIN and JULES BACKMAN, editors. (New York: Farrar and Rinehart. 1942. Pp. x, 501. $3.00.)

Introduction to War Economics. By BROWN UNIVERSITY ECONOMISTS; ALFRED C. NEAL, editor. (Chicago: Richard D. Irwin. 1942. Pp. 248. $1.25.)

The Japanese attack on Pearl Harbor did not find American economists unprepared. These three books appeared within less than four months after our entry into the war, and apparently still others are on their way.

Of the three books here under review, the one by economists at Brown University edited by Professor Neal was not intended as a full-fledged text for a course in war economics. Rather, according to the Preface, it is intended primarily for use in courses in elementary economics. Despite this modest aim, which is achieved exceedingly well, the volume probes fairly deeply into the economic forces at work in wartime. In the quality of its economic analysis, the book is equal to or better than Spiegel's and considerably superior to the heterogeneous collection of chapters edited by Stein and Backman.

For instructors seeking a text for a course in war economics, the weakness of the Brown University symposium is its limited scope. While all the major topics ordinarily included under "the economics of war" are covered, the discussion runs in large part in rather general terms. Descriptive detail is kept to a minimum, and a good part of the factual and historical material that most instructors will want their students to have must be sought elsewhere. This is more true of some of the chapters than others. Professor Basch's excellent summary chapter on "Economic Warfare," which is well written and points up the salient issues clearly, unobtrusively manages to compress a good deal of factual material into a very few pages. Other chapters in the Brown University symposium, for example, those on "Economic War Potential" and "Problems of War Production," also manage to blend factual material with their general analysis. Among the better ones in this respect is Professor Bosland's on business finance, which deals with private financial activities and their control by government in wartime.

Professor Poole's chapter on public finance is sound in its theoretical discussion; but the chapter cries out for a little buttressing with factual material.

It is unnecessarily divorced from reference to past and contemporary events. I should also quarrel with a few of Professor Poole's implied conclusions and with some of his emphasis. To mention only one point: Why should fiscal policy aim particularly at "curtailing the purchasing power of individuals and of firms not producing commodities necessary to national defense" (p. 92)? The incomes of war workers are just as inflationary—in a sense more so, if one is to make this distinction at all, since the goods they produce are not available for purchase out of civilian incomes.

In terms of a nice balance of sound analysis and an informative factual context, Professor Spiegel's book is the best of the three here under consideration. It should be particularly useful to those instructors whose library facilities do not permit their making extensive assignments in outside readings. There is frequently real meat in his economic analysis; and there is a large amount of factual material, which is in good part not merely described but also digested. The book obviously reflects a tremendous amount of work, and the author's apparent knowledge of the literature, especially that in European sources, adds to the value of the volume. There is a good, comprehensive bibliography at the end.

Despite the general excellence of Professor Spiegel's text, there are a number of points where I would disagree with his presentation.

While the opening chapter provides a generally satisfactory treatment of the economic causes of war, the discussion of imperialism leaves something to be desired. I felt, also, that the classification of wars in Chapter II was both arbitrary and artificial. This discussion is not likely to add much to the reader's understanding of the nature of modern warfare.

Occasionally, Professor Spiegel disappoints the reader by not carrying far enough his analysis of recent and contemporary events. For example, though the chapter on man power requirements contains some interesting and useful international comparisons, the author did not, in discussing the American labor supply, present a quantitative analysis of the extent to which our labor force might be expanded in an all-out war program. In the chapter on "How to Pay for the War," the descriptive concluding section, dealing with financial policies in the present war, does not contain the critical evaluation which is called for.

Despite this defect, Professor Spiegel's discussion of wartime fiscal policy contains a better balanced and more realistic treatment of the subject than that in the Brown University book. However, both discussions unduly minimize the revenue possibilities of extending the income tax into the lower brackets. Although he is generally on sound ground, Professor Spiegel also is reluctant to give the devil his due in discussing the inflationary effects of expanding bank credit in wartime. On pages 338-39 he lists the conditions under which bank credit is inflationary. The conditions are much too stringent and by implication unduly minimize the inflationary dangers inherent in war financing *via* the banks. Wartime control of consumption and investment have not proceeded so far in this country that we can automatically assume that, with an inelastic supply of goods available for civilian purchase, velocity will

decline as rapidly as and to the extent that the volume of bank credit rises. Yet such a conclusion seems to be implied in the author's discussion.

The chapter on "International Economic Relations in Wartime" contains a good deal more material than is found in the usual textbook discussion of this subject. Here, as elsewhere, Professor Spiegel does not shrink from tackling some difficult subject matter, despite the demands of a variety of other topics on the time and attention of a single author. Sometimes Professor Spiegel rashly jumps to a conclusion which, with further analysis, he might make more guardedly—as when he says (p. 314): "It had thus become apparent [by 1941] that the economic problems not only in the United States but of the whole Western Hemisphere could be solved with relative ease once a high level of employment and income prevailed in the United States." Would American demand in peacetime, even with full employment, provide a satisfactory outlet for South American products of all types, and can an economic problem be called solved when it calls for the reallocation of resources, in both North and South America, and for the extensive changes in the American tariff system, which would so obviously be necessary?

These are a few of the points on which I would take issue with Professor Spiegel, and there are others. The total of these defects, however, detracts only a little from a conscientious and able exposition. *The Economics of Total War* is a good textbook.

The Stein and Backman symposium is clearly the least satisfactory of these three texts. The book is made up primarily of a mass of descriptive detail. Critical analysis is kept to a minimum, and not a little of such analysis as there is, is superficial and inadequately put. The last chapter on post-war problems, which does deal with general issues, is vague, unrealistic, and reflects not a little confused thinking.

The book is poorly organized and suffers from a lack of balance. There is some overlapping, as between Chapter V ("War Finance") and Chapter VII ("Fiscal Policy, Credit Control, and General Price Ceiling"), and some topics are given far too much weight. Is there need for separate chapters on railroads and on electric power, each of some 25 pages, and both tediously full of descriptive and historical detail? The entire volume would benefit from condensation, or at least from a substitution of some pertinent generalization and critical analysis for a good part of the detailed description.

There is a good deal of useful information in the book. For this reason alone, some instructors may wish to use the book or to assign readings in it. In organization of the material covered and in the quality of the economic analysis applied to the material, however, the book is generally defective. Not all of the chapters are equally weak; but there were few that I finished without a feeling of disappointment, and this feeling applied to the book as a whole.

One of the most useful parts of the book is the 50 pages of Appendices. Here the reader will find in a convenient source the relevant portions of the important statutes on which the American defense and war program was based, various executive orders establishing war agencies, examples of the types of orders issued by OPM and OPA, and other material of a similar sort.

Pigou's masterly little volume still stands in a class by itself among the books in English on the economics of war. None of these three can approach it in acuteness of analysis, clarity, or style. But both the Brown University book and Professor Spiegel's volume are a credit to their authors, and both undoubtedly will find wide use in American colleges.

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The Managerial Revolution: What Is Happening in the World. By JAMES BURNHAM. (New York: Day. 1941. Pp. 285. $2.50.)

This volume is probably the most widely read essay in social theory and the philosophy of history to appear in recent years. It purports to set forth in purely objective terms a description and analysis of a social revolution through which the entire world is said now to be passing and which will be fully crystallized within the next decade or two. The description comprises social structure, economic organization, political ideology, and international relations.

The author has not the slightest uncertainty in his own mind as to the validity of his diagnosis; he seeks to dispel any uncertainty in the reader's mind by a didactic style which is opinionated and self-assured to the point of arrogance. In detail, the work is often logically crude and historically inaccurate. Perhaps its major source of interest, indeed, is not so much its content as the extraordinary response which it has evoked in the reading public.

The thesis of *The Managerial Revolution* is extremely simple. It is a modification of one wing of doctrinaire Marxism (the author is an ex-Trotskyite). To the familiar concepts of the proletariat and bourgeoisie as major social classes, Burnham adds the "managers," whom he regards as the emerging dominant class. The remainder of the theory is wholly in the Marxist tradition. Revolution is conceived as the transfer of social power from one class to another. The primacy of economic relations in determining social development is reaffirmed, and even regarded as the only factor in social development worthy of attention. Social power is defined in terms of effective control over access to the means of production, and symbolized by preferential treatment in the distribution of income. The state is regarded as one of the instruments of class rule, directing its efforts toward the maintenance of a given set of class relations. Ideologies are viewed as reflections of economic class interest, the dominant ones serving in fact (whether or not consciously so intended by their authors) to make popularly acceptable the position of the ruling class. Burnham's sole departure from the Marxist formula is his affirmation of the existence of an identifiable managerial class which has already advanced far along the road toward complete possession of power.

Who, then, are these "managers"? In the chapter devoted to this specific question, Burnham tells us that they are the men engaged in "the technical direction and coördination of the process of production" (p. 79). Again, he says (p. 80): "We may often recognize them as 'production managers,' operating executives, superintendents, administrative engineers, supervisory tech-

nicians; or, in government (for they are bound to be found in governmental enterprise just as in private enterprises) as administrators, commissioners, bureau heads, and so on. I mean by managers, in short, those who already for the most part in contemporary society are actually managing, on its technical side, the actual process of production, no matter what the legal and financial form—individual, corporate, governmental—of the process."

The emphasis here is on *production*—the actual turning out of goods and services. Burnham specifically differentiates his "managers" from those high-ranking corporate executives who "have the functions of guiding the company toward a profit" (p. 83). Thus the protagonists of this essay are not the group commonly referred to in contemporary analysis of corporate structure as "management"; they are not concerned with markets, prices, or profits; they are simply the group which gets out the goods. This terminological peculiarity has of course no intrinsic importance in itself. It gains importance only from Burnham's heavy reliance in applying his thesis to the United States on Berle and Means's *The Modern Corporation and Private Property,* where the term "management" refers to precisely that group which Burnham calls "finance-executives" and in no sense to Burnham's production "managers." Moreover, in the light of Burnham's explicit emphasis on production control as the typical managerial function, it is impossible to understand his inclusion of American government administrators as leading specimens of the managerial species. Omitting the war agencies, it is clear that except for a handful of executives of public enterprises in the narrow sense, such as the Tennessee Valley Authority and the Rural Electrification Administration (and even this latter instance is doubtful), our administrators, commissioners, bureau heads, etc., are *not* directly concerned with the organization of production. Burnham is compelled to describe them as "managers" in order to fit into his thesis the last decade of American political and economic development. This characteristic logical *tour de force,* like many others in the book, is interlarded with fulsome references to the pure objectivity of the pure social scientist.

It is the "managers" as thus defined who Burnham assures us will inherit the earth within a few decades. Soviet Russia is regarded as virtually a full-blown managerial economy; nazi Germany is not far from the goal; and New Deal America is well on its way. The managers are certain to acquire power because of their technical indispensability; the revolution requires no conscious effort toward that end. The process may take place in either of two ways. The Russian pattern consists of the destruction of the capitalists by a temporary alliance between managers and masses, followed by a gradual reduction of the masses to impotence. The German pattern, in contrast, consists of the destruction of the organized power of the masses by a temporary alliance between managers and capitalists, followed by a gradual reduction of the capitalists to impotence. The American pattern partakes of both, but is supposed to resemble the German more closely than the Russian. In either event, the end-product is identical. The managerial revolution has its own ideological superstructure, focused around the concepts of the state and state authority, collective action, planning, security, coördination, and the elite.

In the international sphere, managerial power will first be consolidated into three great world-regions, each based upon a center of heavy industry. The centers are in Japan, the United States, and northwestern Europe (the Ruhr-Rhine area, northeastern France and Belgium). It is perhaps peculiarly significant that Burnham takes it for granted that the European center will be controlled by Germans, and gives no thought to the possibility of a heavy industry center in Russia. After consolidation of these three spheres in consequence of the present war, Burnham envisages a long series of inconclusive inter-sphere struggles for world domination by a single group of managers—struggles which can be terminated only when technical development of the means of warfare permits one of the three groups to gain global omnipotence.

The Managerial Revolution can be criticized at three quite separate levels. The first is one of internal coherence: accepting Burnham's general premises, does he prove his thesis? The second is a criticism in Marxist terms: assuming the validity of the Marxist concepts of social structure, class, and revolution, how does the Burnham variation on the Marxist theme stack up against more orthodox renderings? The third goes to the root of Burnham's analysis by questioning not only his logic but the conceptual framework itself—a framework which, as noted above, Burnham and contemporary Marxists possess in common.

The first level need not detain us for long. Any careful analysis of this book will show it to be replete with historical fallacies and logical absurdities. Two examples will suffice: the "proofs" that nazi Germany is in essence already a managerial state, and that pre-war New Deal America was in the early stages of a managerial revolution with marked tendencies in that direction.

The chapter on "The German Way" presents only eight evidences of "managerial" trends other than mere assertion. They may be restated in two propositions as follows: (1) nazi Germany is not capitalist, because (a) she eliminated mass unemployment in a couple of years after 1933, (b) she has "broken through the restrictions of capitalist finance" (p. 334), (c) her territorial expansion, efficient war-making, ability to inspire fanatical loyalty, and youthful leadership are all signs of renewal rather than decadence, (d) the existence of the nazi Fifth Column in other nations proves that nazism is a social-revolutionary force, and (e) the share of capitalists in the national income is decreasing. (2) Nazi Germany is managerial because (a) there is an increase in state enterprise and in state control over private enterprise and labor, administered through boards, bureaus, and commissions, (b) the *de facto* managers of factories have "final say, subject to certain bureaus and state-controlled courts, about labor disputes—that is . . . the right of controlling access to the instruments of production" (p. 238), and (c) we seldom find managers among exiles from nazi Germany—"for the managers realize that the society which is developing is *their* society."

The first proposition is hardly proved, and even if proved would be relevant only if Burnham had already demonstrated that only three forms of society are possible—capitalist, socialist, and managerial. As to the second propo-

sition, it is noteworthy that the only positive point involving managers as Burnham has defined them is the one on labor disputes, where the "managers" are subject to bureaucratic control. The final point is perhaps the crowning absurdity—which oddly enough was selected by the publishers for quotation on the jacket. One might equally well argue from the notable absence of peasant refugees that nazi Germany is heralding the dawn of the "agrarian revolution." Nowhere is the hegemony of the Nazi party and Gestapo given recognition as a prime element in German social reality.

The thesis that the American New Deal is "managerial" in tendency is buttressed by equally weighty argument. The significant and managerially-minded New Dealers who really count, Burnham tells us, are not conspicuous politicians and not President Roosevelt (who "does not make 10% difference"), but "the younger group of administrators, experts, technicians, and bureaucrats who have been finding places throughout the state apparatus: not merely those who specialize in political technique, in writing up laws with concealed 'jokers,' in handing Roosevelt a dramatic new idea, but also those who are doing the actual running of the extending government enterprises: in short, managers" (pp. 254-55). Here again, the argument simply fails to square with facts. No one would seek to deny the expanded rôle of government in economic life under the New Deal. But the number and influence of administrators who meet Burnham's definition of "managers"—who are *production* men—has been insignificant.

In actuality, the new bureaucracy has been performing in the name of the government a function corresponding closely to that of Burnham's "finance-executives"—dealing with costs, prices, labor relations, investment, and capital structure, but in only a handful of instances have they been concerned with physical production. Private production managers were for the most part at least as hostile to the New Deal as were capitalists, whose apoplectic rages against Roosevelt Burnham cites as evidence for the New Deal's anticapitalist character. Burnham seeks additional weight for his thesis in the view that the New Deal has "curbed the masses" by tying unions more closely to the state. Why not argue in precise parallel that the New Deal has curbed the managers by tying them more closely to the state?

It will be evident that, even accepting Burnham's premises, he has not proceeded from premise to logical conclusion by the marshalling of cogent evidence, despite all his repeated assertions of devotion to scientific method. Nor has he made a thoroughly convincing case against the orthodox Marxists, a level of criticism which it is not proposed to enter upon in this review.[1]

The fundamental criticism of Burnham's thesis cuts beneath his superficial logical errors and his gadgetary modification of Marxism based on the "managerial" class; it challenges the Burnham-Marxist conceptual framework itself. To do justice to criticism on this plane would require several volumes rather than a few paragraphs, but the general lines of the rebuttal may be briefly indicated.

At this level, objection would first be taken to the exclusive rôle assigned

[1] For a critique of Burnham in Marxist terms, see P. M. Sweezy, "The Illusion of the Managerial Revolution," *Science and Society*, Vol. 6 (Winter, 1942), p. 1.

to economic influences in social development. The enormous importance of such influences, particularly in the modern world, can hardly be questioned; their exclusive importance has always been questionable. In recent centuries they have been powerfully modified and sometimes directly negated by political influences, both organizational and ideological. Nationalism in both international and domestic affairs, and the search for individual liberty and popular responsibility for government, are outstanding instances of such forces. Over the great span of recorded history and in most portions of the globe, religious views and organization have generally predominated over affairs economic. Even when such non-economic forces may be traced in their origins to economic interests and pressures, they develop in practice, once conceived, an independent vitality of their own. Such has been the experience with liberalism. The apotheosis of economics in social development is a consequence of excessive preoccupation with the history of Western Europe, and especially of England, over the past four centuries—and it may be effectively challenged even there.

In the second place, exception must be taken to the view that any given society at any given time can be realistically analyzed in terms of the exclusive dominance of a single social-economic class which maintains its position by the exploitation of one or two other classes. Here again, the tremendous importance of the concept of class as an instrument of social analysis is irrefutable. But a realistic sociology must deal with coherent groups based upon community of non-economic as well as economic interest; it must recognize a multitude of groups of varying degrees of coherence and inclusiveness; and it must conceive of a highly complex equilibrium of social forces involving groups of all types and of all levels of social influence. Life just is not as simple as the Marxists would have us believe. The complex motivations of individual behavior which modern psychology is systematically exploring have their counterparts in social behavior, and no philosophy of history contemplating two or three classes activated by a single, simple, economic motive can either fully explain the past or effectively predict the future.

An example may be drawn in terms of one of Burnham's central touchstones—"access to the means of production." In contemporary America, such access is not at the disposal of any single group. It is controlled partly by the legal owners of corporations, partly by financiers, partly by executive management, partly by production management, partly by labor unions, partly by local community organizations (which may be sympathetic to "capital," to "labor," or to neither), partly by federal bureaucrats, and partly by federal judges. If thirty years ago the resultant of these forces in most cases appeared to favor the interests of capital, can it be said today that similar forces produce any such simple or uniform resultant? Indeed, if a broad theory of the trend of contemporary American social development must be hazarded, it would appear to lie in the multiplication of social groups possessing an important share of power, and forming an equilibrium in which no single group is dominant.

Needless to say, the view advanced here would also challenge as a false

trichotomy Burnham's simple choice among capitalism, socialism, and "managerialism." Against this challenge, Burnham's major arguments fall to the ground, since they rest primarily on an effort to disprove the likelihood of the continuance of capitalism or the advent of socialism, rather than on positive evidence in support of managerialism.

For all its defects, Burnham's book is not wholly worthless. It contains the germ of an important idea—the tendency of an increasingly complex productive mechanism to give enhanced social significance to organizational technicians. This is particularly true in wartime. The book has undoubtedly stimulated thought on the broad processes of social change in circles to which such considerations are generally unfamiliar. Its style, however annoying, is provocative, and it possesses occasional flashes of genuine insight. The basic thesis, however, is wholly unproved.

The book's popularity, particularly in American business circles, is something of an enigma. It is impossible to explore here the psychological conditions which created so favorable a public response. In part, no doubt, it has been welcomed for its emphatic disavowal of the false dichotomy "Communism or Fascism." It is likely, also, that many business men were sympathetic to a grandiose dramatic portrayal of "what is happening in the world" when they could readily identify themselves with the protagonists. In this connection, it is of little significance that the book's admirers have apparently been as numerous in legal, financial, and "finance-managerial" circles as among production organizers, since rapid readers with a slight, wishful bias might easily slur over the precise content of Burnham's concept of "managers."

The more deep-seated causes of this widespread acceptance, however, probably lay in the underlying malaise and sense of frustration which was all too common in the American business world in 1941 and which bore a dangerously close resemblance to many aspects of pre-war France. The equilibrium between business and the New Deal was still far from stable. The effect of the war on the American economy was ill-defined. In the midst of the resulting uncertainties there appeared a book which claimed to have all the answers and which asserted the inevitability of its conclusions in language which anyone could understand. *The Managerial Revolution* had all the appeal of that brand of adolescent "realism" which forgets that the rôle of moral values in influencing human action has historical objectivity as great as the rôle of hunger, and which releases the weary conscience by emasculating the will.

In the perspective of the world struggle to which we are now committed, the effect of any broad acceptance of Burnham's thesis among influential groups is clearly defeatist. It is perhaps not unreasonable to suppose that had this book been published after Pearl Harbor, the response would have been far less sympathetic.

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Labor and Industrial Relations

Three Aspects of Labor Dynamics. By W. S. Woytinsky. (Washington: Social Science Research Council, Committee on Social Security. 1942. Pp. xiv, 249. $2.50.)

The term "labor dynamics" has gained wide currency in the literature of labor economics in recent years, but frequently it has been rather vaguely defined. In the present study, the term is clearly and comprehensively defined to include "all kinds of variations in the labor force of the nation—the entry of new generations into gainful work and retirement and death of aged workers, internal migrations, occupational and industrial shifts, turnover of the labor force in industrial establishments and between employment and unemployment, the temporary entry of marginal workers into gainful pursuits and their withdrawal from the labor market because of changing business conditions, and the like" (p. v). Sound generalizations in so inclusive an area of economic life necessarily rest upon an analysis of the behavior of the whole labor market, a task not attempted in the present investigation. The author explores only three particular kinds of movements of the working force, which are appropriately characterized as three phases of labor dynamics, namely, labor turnover in establishments, turnover of the unemployed, and "additional workers," otherwise known as "forced entries" into the labor market.

Part I is devoted to labor turnover as normally conceived. It deals specifically with the methods and sources of turnover statistics, and with labor turnover in a period of extensive demand (1910-1919), in a period of increasing labor market rigidity (1919-1929), and in a period of unprecedented unemployment (1930-1940). The continuous succession of entries into jobs and terminations of employment represent to the employer a turnover of the working force and to the worker a repetition of hiring and firing. Thus labor market behavior means different things to these principal parties to industry.

The basis of the author's conclusions is found in three different periods, namely, the World War, the reconstruction decade of the 1920's, and the great depression decade of the 1930's. The findings conform to the results of earlier investigations. Turnover rates usually were high in periods of prosperity and low in depression years. Both before and during World War I, voluntary quits constituted fully 75 per cent of the total separations, while in the depression decade of the 1930's, fully 75 per cent of terminations were initiated by employers. A significant fact, cited in previous studies but much more sharply delineated here, is that nearly three-fourths of all separations are attributable to what is known as the "unstable" group of employees, which constitutes not more than 13 per cent of payrolls and comprises those with service records of less than one year.

In contrast to other writers on this subject, the author injects a note of optimism into the discussion of labor turnover (p. 3). Although he acknowledges that for employers labor turnover represents an economic waste, for the workers there is an economic gain in the betterment of their position. Even for society as a whole there is an apparent advantage, since the flexibility of

the labor supply issuing from labor turnover tends to facilitate distribution of new workers in meeting the demand for labor in rapidly expanding industries. Employers will scarcely appreciate this gleam of hope, and labor economists interested in the social consequences of abnormal labor turnover will not derive much assurance from it. This is not to say that the author's observation is without a measure of validity.

From his meticulous analysis of statistical data, which he measures by generally accepted methods, the author reaches the conclusion that the ratio of quits to total separations constitutes one of the most sensitive indexes of the labor market. It registers not only variations in the demand for labor by industry, but also the changes in the occupational and psychological pressure upon the workers (p. 52). In a prolonged depression such as in the 1930's a process of selection takes place in which only the most efficient employees are retained. As a consequence there develops a prejudice against separated workers who under normal conditions would have little difficulty in obtaining employment. This prejudice against reëmployment of separated workers tends to increase directly with the length of separation from active service.

Part II deals with the rather novel conception of turnover as applied to the unemployed. The problem of labor turnover and unemployment merge and appear as two phases of the same phenomenon. The author here is concerned primarily with the interpretation of the distribution of the unemployed by duration of idleness and the turnover of the unemployed before and during the depression of the 1930's. Proper interpretation of unemployment data at a given date requires a classification of the unemployed by duration of idleness. Only in this way can reliable evidence and guidance be furnished to unemployment compensation and public assistance agencies, since workers unemployed for varying lengths of time present specific problems that are different (p. 61).

Throughout the analysis in Part II particular attention is paid to the distinction between short-time and "hard-core" unemployment, a distinction which can yield fruitful results in the measurement of the severity of unemployment and its social effects. The correlation between the duration of unemployment and business conditions is manifested in variations in the rate of turnover of the unemployed, which increase with recovery and decrease with depression. Moreover, the data provide a basis for the conclusion that for unemployed workers of any given statistical description the chance for reëmployment tends to decrease with the duration of idleness, reaching a point of negligibility after a period of several months of unemployment (pp. 66-67). Thus the "hard-core" of unemployment may be said to result from a sort of negative selection in which the more efficient workers are likely to find new jobs relatively soon and the less efficient are likely to be idle for an extended period. However, whenever the supply of labor greatly exceeds the demand, even complete equality of personal qualifications does not preclude the formation of a hard-core of unemployment. The depression of the 1930's is convincing evidence of this fact.

Part III considers "additional workers" in depressions, a problem long since

recognized by labor economists but not previously so carefully and completely analyzed. Methods of measuring the number of additional workers in depressions; concentration of unemployment by families in 1915; additional workers at the beginning of a depression, in a period of increasing primary unemployment, in consecutive phases of a depression, and by types of families; and voluntary registration of the unemployed are the problems discussed here.

The term "additional worker" is used to designate all persons who are not regularly employed in gainful occupations but who enter the labor market under the stress of economic circumstances. The author is concerned with those additional workers who become a competitive factor only when the principal breadwinners of families are unemployed. These are "forced entries" into the labor market and are not to be confused with supplementary, secondary, or temporary workers. In periods of exceptional demand additional workers constitute an important part of the reserve from which labor shortages are met, while in periods of depression they greatly intensify labor competition (p. 106).

The author brands as unrealistic the commonly advanced theory that unemployment of the principal breadwinner usually forces a new worker into the labor market. In many families, he states, there are no adult members who are not already in gainful employment, while in many others adult members may be kept at home by family circumstances. This observation apparently excludes the probability that minors in the family may be forced into the ranks of the gainfully employed. If such exclusion is intended, the author's position will be rigorously disputed by many students of the unemployment problem.

In the Appendix are notes dealing with the determination and measurement of rates of unemployment and a number of statistical tables on both labor turnover and unemployment. These constitute an extremely valuable source of supplementary information.

The author's critical examination of the principal studies of labor turnover and unemployment yields a rich harvest of reliable data. In calling attention to specific deficiencies in unemployment censuses and in analyzing neglected aspects of the problem of forced idleness, especially turnover of the unemployed, he has greatly strengthened the basis for an intelligent approach to the whole problem of unemployment and its effects upon the individual and society. The entire investigation is an admirable example of the fruitfulness of the quantitative method in economic inquiries. The author's refinement and improvement of the technique of measurement in this area of research will be welcomed by students concerned primarily with problems of labor turnover and unemployment. In sponsoring such studies as the present one, the Committee on Social Security of the Social Science Research Council is doing a notable work for the advancement of genuine scholarship in the social sciences.

GORDON S. WATKINS

University of California

The Dynamics of Industrial Democracy. By CLINTON S. GOLDEN and HAROLD J. RUTTENBERG. (New York: Harper. 1942. Pp. xxvi, 358. $3.00.)

A trade unionist's presentation of his views and arguments on two important issues, the union shop and labor participation in industrial and national councils, emphasizes labor's increased appreciation of the need of informing its membership, the employers, and the public of its position. Such statements are offered in the hope of developing better understanding, greater tolerance, and possibly promoting more successful collective bargaining.

Such a volume as the present one, consisting of an arrangement of arguments and statements derived directly from the conference rooms where current labor problems are being ironed out, serves the needs of all three groups. The individual union member and leader will use it to fill out the fragmentary statements offered in union organs and speeches. The employer will find in it the union's views in general enough terms to permit him to consider his own specific problems without the bias and emotionalism attendant upon particular negotiations. For the public the book unfolds the "principles of union-management relations" formulated by two union representatives for the steel industry.

The union shop described by the authors as necessary for the full expression of the will of the workers' majority is urged as a means of eliminating industrial conflict. The greater part of the book is devoted to presenting this thesis with many day-to-day illustrations of the inevitable suspicion and fear lurking in the union's rank while its status is uncertain. The ever-present need of defending the union's very existence does not permit free consideration of the merits of employer proposals. The force of this argument has convinced the federal war labor agencies that industrial peace during this emergency can be best advanced by guarantees of union shops in plants where employers are distinctly antagonistic to unions and the compulsory maintenance of union membership for other concerns. The authors' devotion to the above thesis and their fervor for their cause leave them little place to consider the wisdom of accepting such guarantees at the hands of government agencies or the types of policies which unions will follow in plants and industries where union shops will exist.

To declare that the clash of interests between labor and management on the plant or company level can be transcended through "union-management coöperation" plans is to overlook the obvious meanings of the authors' plea for industry-wide collective bargaining and national democratic planning, as well as to misread the failures of the past and present. Many valuable results can flow from such coöperation, as many studies have already shown. But labor's participation and wholehearted coöperation can be secured not by offering workers merely an "outlet for their creative desires" but by guaranteeing them security, assurances of benefits, and motives for change. Workers have coöperated where business concerns were on the verge of bankruptcy and their employment was threatened. Their fear of unemployment following from speed-up and modernization and suspicion of the personal consequences and misfortunes following change initiated by management to increase profits have

not generally been overcome even by inducements of slight wage increases. There must be an adequate motive divorced from profit, such as our present patriotic ones, together with definite guarantees of jobs and benefits and personal security for workers to consider coöperating with management for greater production and lower costs. But employers have much to gain from such coöperation in the form of good will, stable labor relations and direct economic profit and should encourage this relationship wherever possible, knowing full well the inherent diversity of interests between labor and management.

The authors properly point to industry-wide collective bargaining as an "outgrowth of local and individual company" collective bargaining. Their preoccupation with the immediate problems of the steel industry necessarily limit them to summary statements of the problems and possibilities inherent in this form of bargaining. The extensive experience of other industries contains many fruitful suggestions.

Their hope that such bargaining would deal with the problem of the distribution of the industry's income prompts the authors immediately to propose national democratic planning councils at which labor would have an active voice. They espouse the Industrial Council Plan presented by Philip Murray, which they reprint in the Appendix.

Many fundamental political and economic problems and issues suggested by the book's title, *Dynamics of Industrial Democracy*, are necessarily omitted from the discussion as being outside the day-to-day experience of the trade union movement as experienced by the authors. They have limited themselves for the most part to proposals, statements and ideas already formally approved by labor's spokesmen. Being intent upon elaborating labor's current views rationally and with spirit, they have not formulated a systematic and complete intellectual framework for labor's current philosophy. No consideration is given to the problems attendant upon the transformation of our present society to one in which national democratic planning prevails and in which labor's equal status is recognized. Their pragmatic interests lead them to insist upon further education of union leaders and continuous research and exchange of ideas and experience on the problems of collective bargaining.

More practical guides on specific problems of collective bargaining and broad discussions such as this book presents would aid in advancing better understanding and serious consideration of the methods of establishing a democratic society in which the people's interests will predominate about the council tables dealing with economic, social, and political problems.

SOLOMON BARKIN

New York

Doors to Jobs: A Study of the Organization of the Labor Market in California. By EMILY H. HUNTINGTON. (Berkeley and Los Angeles: Univ. of California Press. 1942. Pp. xviii, 454. $3.50.)

Emily Huntington's *Doors to Jobs* is a study of the structure of the California labor market as of 1938. It is unfortunate that it did not appear until 1942. Such extensive changes have occurred in the Employment Service and

in the nation's unemployment relief agencies since 1938, that the study's principal value now is its record of the characteristics of the pre-war labor market.

The reviewer has observed frequently that such a long time elapses between the doing of some economic field studies and their publication that they are of less practical value when they finally appear than if less prolonged editing had been done. It may be worth while to give more attention to utility and less to scientific "finish" in some of our studies.

The investigation was made in 1938, a year of bad unemployment. One of the outstanding facts it revealed was the multitude of agencies through which labor might be marketed in California. In addition to federal and state employment services, there were such federal agencies as the W.P.A., N.Y.A., C.C.C., doing placement work for their clients. Aid in finding jobs was also being given by the state relief administration, by educational institutions—public and private—by the Bureau of Vocational Education, the Indian Bureau, camps for migrants, and other public agencies.

Placements were being made free of charge by a variety of private social service agencies (*e.g.*, Y.M. and Y.W.C.A., the Community Chest, and religious agencies); by private trade schools; by certain private businesses doing placement as service to customers (*e.g.*, business machine and typewriter companies); by occupational associations (nurses, teachers, and local skilled groups); and by fraternal orders, veterans' associations, and a number of other agencies.

Approximately 366 licensed, fee-charging employment agencies were in operation in San Francisco, Los Angeles, and Sacramento. Of these (a characteristically California picture), 214 or 60 per cent were operating in the theatrical field and 15 others dealt entirely in oriental labor. Only 44 of the 366 fee-charging agencies dealt in general labor. All of the others were specialized, such as agencies for nurses, teachers, domestic servants, and office help.

The study depicts the California labor market (as of 1938) as definitely uncentralized. At hundreds of places, both public and private, agencies were doing placement work; some, well; some, not too competently. A multitude of contacts with the unemployed, on the one hand, and with job opportunities, on the other, were maintained by a miscellany of organizations. Some of these attempted to maintain coöperative relations with the public employment service, but the majority operated in practical independence of it. Readers familiar with earlier studies of the American labor market will find the picture a familiar one.

The field investigation covered the three largest urban areas in the state, and also agricultural regions which depend upon labor supplies from outside the local community for the planting or harvesting of such crops as potatoes, cotton, sugar beets, beans, the citrus fruits, peaches, pears, prunes, apricots, almonds, and walnuts.

The general plan of the study was to visit for a month or longer certain representative areas of California to determine what placement resources were available in each, to investigate an adequate sample of the more important of these agencies to discover the type of jobs they were filling, how they operated

and what was their volume of business. No effort was made to gather elaborate statistics; the purpose of the study was to describe how workers got jobs rather than to measure the work of the labor market agencies statistically.

The several chapters of the report describe in some detail the functioning of the various placement agencies. Chapters III to VII cover the placement agencies of the communities studied; *i.e.*, the California employment service; other governmental agencies doing placement; nongovernmental free employment offices; and the fee-charging agencies.

The chapter on "Labor Contractors" by Mary G. Luck, who did much of the field work of the whole study, is of particular interest. "In 1938," says Mrs. Luck, "the labor contractor, in his infinite ramifications, was still an important factor in the agricultural labor market of California, particularly in crops where alien races were employed. Filipinos almost invariably worked in gangs of single men under a gang boss who was more the headman of the group than a labor contractor. . . . a very large proportion of the contractors, who might have gangs of various racial composition, were themselves Mexicans. . . . there were still some Japanese labor contractors, hiring mostly men of other races. The latest immigrants to California, white families from the 'dust bowl' avoided the contractor system wherever possible."

Some of the types of labor contractors described are:

1. The Entrepreneur, who contracts to harvest a field for a certain price per hamper picked and furnishes his own labor supply;
2. The Boarding House Keeper, who assembles a crew and supervises them principally for the privilege of selling them board and lodging;
3. The Contractor who sells job opportunities in his gang for a fee, but does not operate a boarding house or camp;
4. Those who charge fees of the employers for recruiting labor for them;
5. Foremen who provide their own crews, presumably without charging fees but possibly with some "kickbacks" from the workers under them;
6. The Headman of a coöperative group, a system which has almost disappeared except among the Filipinos.

Two chapters are devoted to placement done by labor unions and employers' associations in urban and agricultural industries. Employers' associations, in the opinion of the authors of the report, have "organized placement bureaus either to forestall union control of hiring or to keep union members or 'agitators' out of the plants in the community. Several Los Angeles associations mentioned the importance of a central employment bureau through which workers could be transferred expeditiously from plant to plant as a method of reducing the cost of unemployment compensation."

Incidentally, this was one of the measures which Professor John R. Commons, during the twenties, predicted that employers would set up if Wisconsin enacted the unemployment compensation bill then under consideration. Professor Commons thought that employers would establish mutual insurance associations covering their unemployment compensation liabilities, with an employment office to keep the periods of unemployment of individuals down to a minimum.

The reviewer commends *Doors to Jobs* to those who would get a better com-

prehension of how placement work has developed in a typical American state. The study reveals an important industrial-agricultural area groping its way toward an organized labor market which it both wants and does not want. A multitude of local, sectional, group, and personal interests are benefited by a but partly organized market. More fundamental and important social interests point the need for more centralized control of the placement function.

DON D. LESCOHIER

University of Wisconsin

William H. Sylvis and the National Labor Union. By CHARLOTTE TODES. (New York: International Publishers, 1942. Pp. 128. 75c.)

This little book of slightly more than one hundred pages reviews the career of an American labor leader who was a link between the old utopian labor movement and the trade union movement of our time. While the book is interestingly written and contains, on the whole, a good account of the important events in the career of Sylvis, it is Sylvis as a forerunner of labor and political radicalism who is portrayed. The early events in Sylvis's life and the part he played in the organization of the molders' union are described. The effect of the Civil War upon labor is examined, and we are informed that the draft riots in the northern cities were the result of the exploitation by pro-slave Democrats of the resentment against profiteers. Sylvis's recognition of the changed economic conditions and his emphasis upon stability and good financial accounting as requisites for successful maintenance of a labor union are related. His influence upon the molders' union, the National Labor Union and the first eight-hour movement are briefly described, and his views on Negroes, woman suffrage, coöperation, and independent political action are cited.

Throughout the volume, Sylvis as an anticapitalist reformer rather than as a job-conscious trade union leader is stressed. The reviewer is inclined to another view. The interest that Sylvis holds for us is not as an advocate of coöperation, or as an espouser of a vague form of anticapitalism. In that respect he resembled his contemporaries in the labor movement. Sylvis's uniqueness was that he perceived the need for a stable, practical, economic trade union movement founded on an adequate and well-managed treasury. This quality stamped him as a man ahead of his time. In this respect he foreshadowed the labor leader of the nineties and even of our own time. Miss Todes is more concerned with Sylvis as a champion of a wider political solidarity of labor. His championing of a labor party remains for her "a critical step, if labor is to take its place as a leading force in the affairs of the nation." She has, therefore, mainly emphasized Sylvis the social reformer. Nevertheless, her study is a fair and interesting description of many of the high spots and opinions of a pioneer labor figure.

PHILIP TAFT

Brown University

The Needle Trades. By JOEL SEIDMAN. (New York: Farrar and Rinehart. 1942. Pp. xviii, 356, $2.50.)

This first volume of a contemplated series, "Labor in the Twentieth Century," lives up to the introductory comment of the editors that Dr. Seidman, formerly of Brookwood Labor College, has brought to this study of one of the largest and most interesting sectors of the labor movement, comprising some 600,000 members, the training of a scholar and the rich experience of a participant in the labor movement. Dr. Seidman not only ably integrates the contribution made in previous histories of the Amalgamated Clothing Workers' Union and the International Ladies' Garment Workers' Union but also has rounded out the picture with the other three unions in branches of the needle trades. To one who has participated in organizing, educational and research work with four of the five unions, it is clear that this volume does not merely supplement previous attempts to give a comprehensive picture.

The book is written neither in the crusading spirit of the Budish and Soule *New Unionism,* published in 1920, nor from the factional and biased outlook of Jack Hardy's *The Clothing Workers,* published in 1935. Because he has begun by sketching in the economic background in each branch of the needle trades, has analyzed the labor force, the leadership and policies, Dr. Seidman is able to evaluate as no one else has done the reasons why factionalism and internal conflict have variously affected each of the organizations at various periods.

If one were to suggest any improvements or additions these would be: an amplification of the discussion on the rôle of these unions in the American Federation of Labor and in the C.I.O.; and a supplementation of the appendix material, now confined to Census Statistics, by data showing membership growth and distribution, by geographic region, sex, and race. Especially valuable is the critical bibliography although Dr. Seidman's book shows every evidence of an absorption so complete that little study of previous sources should be necessary. The scholarliness of the work has not stood in the way of a presentation as vividly alive as the life and activities of the organizations which he describes and analyzes.

ELSIE GLÜCK

Washington, D.C.

Unclassified Items

Millhands and Preachers. By LISTON POPE. (New Haven: Yale Univ. Press. 1942. Pp. xvi, 369. $4.00.)

The publication notices of this book gave the impression that it was merely another study of the notorious 1929 strike in the Loray Mills of Gastonia, North Carolina, with special reference to the rôle of the religious leaders of the community. Since a large amount of material covering many aspects of that much-publicized strike has appeared in print in the last thirteen years,

such a project at the present time might well be an instance of shooting a dead horse.

An examination of the book, however, dispels any such skepticism, for the author has not only escaped the possible danger of rehashing already published works, but has also made a valuable contribution to the literature of the functioning of social and economic institutions. In fact, the book is concerned only incidentally with the details of the strike itself. The author sets himself to the task of discovering the interrelations in community life of economic and religious institutions. Commenting in the Preface on the fact that, while philosophers such as Marx and Max Weber have advanced various hypotheses as to the interaction of these institutions, there have been few studies which have actually undertaken a description of the contemporary data in precise terms, the author selects a certain area—Gaston County, North Carolina, the center of the combed yarn section of the textile industry in the South—and a certain period—1880 to 1930—as the focal points of his study. Since the Loray strike was led by Communists, whose philosophy challenged both the economic structure and the religious tenets of the community, the tempo of interaction was highly accelerated and dramatized by the issues of the strike and in the subsequent trial of the strike leaders for the shooting of a police officer, a trial in which the religious beliefs (or lack of them) of the defendants were admitted as evidence in determining the credibility of witnesses.

The book is divided into three main sections. The first, The Patterns of Growth, traces the development of the textile industry in Gaston County as part of the general expansion of the mills in the Piedmont region. The general material is a familiar story to those acquainted with the work of Professor Broadus Mitchell and the Chapel Hill group. Mr. Pope adds to this the related history of the churches in Gaston County, and their rôle in mill building. He finds that "there have been reciprocal relations in growth, *i.e.*, expansion, quantitative increase in salient respects, quantitative differentiation and proliferation within each type of institution as compared with the other." One of the most significant parts of the work is in this section; that is, the description of the emergence of social-economic classes as the industrial life of the community developed, and the accompanying emergence of "class churches." The class churches become institutionalized. They tend to move up on the best streets and to erect costly and impressive-looking buildings, moving away from the interests and environment of the wage-workers in the mills. The religious sects, The Holy Rollers and others, on a more emotional and earthly basis, fill the religious needs of those at the bottom of the economic ladder. These religious sects, according to this interpretation, are a type of folk-movement.

The second section, Modes of Control, deals with "the restraining and regulatory procedures" which have been worked out between the two institutions. The financial support given the churches by the mill managements is analyzed and its effect on the programs and policies of church groups is indicated. The significant part of this material is the matter-of-fact way in which both pastors and parishioners accept this relationship. From this, it follows that the inde-

pendence of church groups on specific social and economic questions is strictly limited. There appears to be a division of labor accepted by the religious leaders. Their share is to look after the "spiritual needs" of their flocks. Mr. Pope points out the fact that among the clergy of both uptown and mill churches there is a stark inadequacy of knowledge of social and economic questions. This is as true of the "educated ministry" as of the untrained lay preachers. On the whole, since the latter live on a scale closer to the economic level of the mill workers, they tend to more sympathetic action, although not necessarily possessed of greater understanding of the issues at stake.

The third section, Strategies of Defense, is concerned with the Loray strike and its aftermath. The strike is presented as a clash of cultures. Both the industrial structure and the religious organizations met a crisis in which fundamental relations, normally obscured, were revealed. For those familiar with the details of the strike incident, this is from some points of view the least significant part of the book. The reason is that the very excellent analysis which precedes has already indicated the effect of a communist-led strike on the economic and religious institutions in the community. It is, therefore, to be expected that, in so far as independent actions were concerned, the basic economic factors in the strike passed almost unnoticed by the organized forces of religion. Persons identified with the churches took considerable part in the resistance of the community to the strike, but always in terms of protecting the economic status quo. Even the implications of injecting the religious issue in the trials appear not to have caused concern on the part of the churchmen. The author concludes that in the time of crisis, the "Gastonia ministers revealed that their economic ethic ways were products of the economic system in which they lived, with no serious modification by any transcendent economic or religious standard. They were willing to allow the power of religious institutions to be used against those who challenged this economic system, and themselves assisted in such use. At no important point did they stand in opposition to the prevailing economic arrangements or to drastic methods employed in their preservation. In no significant respect was their rôle productive of change in economic life" (p. 330).

This conclusion suggests the long-range problem raised by this study of a specific area of relations between economic and religious institutions. While the preponderant weight of evidence presented by the author would tend to support a rather sharp economic determinism, he declines to come to such a conclusion. "During the period as a whole," he says, "economic factors have more nearly shaped religious institutions than been shaped by them (pp. 331-32). And again, "Religious forces have not been the crucial dynamic factor in culture; neither have they been simply the opiate of the people or an unmitigated sanction of the status quo." He rejects any broad generalization as to the universal relation as being too uncritical and undiscriminating to represent the diverse and complicated relations. He leans to a Bergsonian concept, reconciling Marx and Weber, saying that the "churches have tended to pass from a dynamic force for social change to a static sanction of the change affected" (p. 332). For religious institutions to exert positive influence would,

he believes, call for a different type of organized religion than that now prevailing in the United States.

Some brief reference should be made to the general method and style of the work. Obviously, such a study is not statistical, but there is evidence of scholarly examination of available data and there is a considerable body of factual data presented to support the descriptive material. The pages are filled with evidences of painstaking field work—interviews with mill managers, church leaders, workers, strike leaders and others. There are many direct quotations from these sources which add color and interest, but do not impede the analysis of the basic issues. From the standpoints of content, method, and presentation, this is one of the best books of its type which has come to this reviewer's attention.

Lois MacDonald

New York University

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NOTES

Some doubt was raised as to the possibility of holding the Fifty-fifth Annual Meeting of the American Economic Association owing to restrictions on travel. After consulting officials of the Office of Defense Transportation and conferring with officers of other associations in the Allied Social Sciences group, decision has been taken to hold the December meetings as scheduled. The place of the meetings is Cleveland, Ohio, and the time from Monday evening, December 28, through Thursday afternoon, December 31.

The following names have recently been added to the membership of the American Economic Association:

Adams, I. G., F. E. No. 263, College Station, Texas.
Baker, E. R., Jr., 3264 Van Hazen St., N.W., Washington, D.C.
Baran, P. A., Division of Research, Office of Price Administration, Washington, D.C.
Bedell, C. O., The Fair, Chicago, Ill.
Bond, E. A., Chesapeake and Potomac Telephone Co., 725 13th St., N.W., Washington, D.C.
Bovet, E. D., 2960 Newark St., N.W., Washington, D.C.
Bowler, J. F., 4821 Jackson Blvd., Chicago, Ill.
Buechel, H. T., College of Econ. and Bus., University of Washington, Seattle, Wash.
Bullock, P., Jr., 1623A Fremont Ave., South Pasadena, Calif.
Chau, Y. P., 706 Jackson St., San Francisco, Calif.
Chlepner, B. S., 2407 15th St., N.W., Washington, D.C.
Colin, D. H., Department of Economics, New York University, Washington Square, New York City.
Davis, R. M., College of Bus. Admin., Lehigh University, Bethlehem, Pa.
Degler, C. M., Department of Economics, University of New Hampshire, Durham, N.H.
Dirlam, J. B., 1909 Ringgold Pl., Philadelphia, Pa.
Domashevitsky, J., Department of Economics, Harvard University, Cambridge, Mass.
Doody, F. S., 81 East St., Claremont, N.H.
Dugan, J. E., School of Bus. Admin., University of Minnesota, Minneapolis, Minn.
Edmiston, H. H., Federal Reserve Bank, St. Louis, Mo.
Fitch, H. J., Apt. 304, 2801 15th St., N.W., Washington, D.C.
Goldwater, M., Department of Economics, Brown University, Providence, R.I.
Gordon, M. J., 1555 Grand Concourse, Bronx, New York City.
Greenway, J. C., 30 Vesey St., New York City.
Hartkemeier, H. P., 114 Business and Public Admin. Bldg., University of Missouri, Columbia, Mo.
Hines, L. G., Apt. D-21, 2024 Commonwealth Ave., St. Paul, Minn.
Hochwald, W., Department of Economics, Washington University, St. Louis, Mo.
Hollander, Mrs. L. R., 1615 Kenyon St., N.W., Washington, D.C.
Hough, L. S., 5400 Greenwood, Chicago, Ill.
Jacobs, G. R., 2201 Massachusetts Ave., N.W., Washington, D.C.
Jansson, R. E., 731 Melrose St., Chicago, Ill.
Kamarck, A. M., 2317 25th St., S.E., Washington, D.C.
Kelley, J. W., 236 Bay State Rd., Boston, Mass.
Kenely, M. L., Bradley Hills C. C., Bethesda, Md.
Koller, E. F., University Farm, University of Minnesota, St. Paul, Minn.
Kozlik, A., Office of Population Research, 20 Nassau St., Princeton, N.J.
Larrabee, R. A., Tax Commission, Olympia, Wash.
Levitan, Pvt. S., M. P. Det. Stat. Com., Camp Livingston, La.
Master, M. H., 2052 N. 6th St., Philadelphia, Pa.

Mateyo, G. K., Columbia Broadcasting System, 485 Madison Ave., New York City.
Miller, A. R., Division of Research, Federal Reserve Bank of San Francisco, San Francisco, Calif.
Minsky, H. P., 40 Kirkland St., Cambridge, Mass.
Nelson, G. N., 229 W. 43rd St., New York City.
Nichols, L. D., Holly Hill, South Carolina.
Ouchterlony of Kellie, Baron, 211 Piccadilly, London, W.1, England.
Pechman, J., 120 C St., N.E., Washington, D.C.
Perring, K., Bureau of Urban Research, Princeton University, Princeton, N.J.
Petersen, K., Statistical Department, Norwegian Shipping and Trade Mission, 80 Broad St., New York City.
Plonsky, A., Palatine, Illinois.
Rosen, G., 781 Fulton St., New York City.
Serrano, E. E., Calle 8 No. 456, Vista Alegre, Santiago de Cuba, Cuba.
Smith, A. H., 235 Grand Ave., Rochester, N.Y.
Snyder, B. J., 304 Old Lane, Dayton, Ohio.
Soltar, E. B., 1329 Fort Stevens Dr., N.W., Washington, D.C.
Still, R. R., 1611 5th St., S., Nampa, Idaho.
Sumberg, T. A., Board of Economic Warfare, Washington, D.C.
Taylor, V. W., 131 S. Hanover St., Cape Girardeau, Mo.
Vance, L. L., 119 South Hall, University of California, Berkeley, Calif.
Wald, H. P., 1432 Girard St., N.W., Washington, D.C.
Waples, E. O., 304 Agriculture Hall, Madison, Wis.
Weiner, C. M., 1417 N St., N.W., Washington, D.C.
Wood, R. H., 36 Edwards Pl., Princeton, N.J.

The National Research Council has recently issued the fourth edition of a *Handbook of Scientific and Technical Societies and Institutions of the United States and Canada.* The United States section contains information on 1,269 societies, associations, and similar organizations in the natural sciences and related fields, a number of more general organizations and special institutions supporting scientific research, as well as the constituent or affiliated societies of the three other national research councils of the United States—the American Council of Learned Societies, the American Council on Education, and the Social Science Research Council. The Canadian section, compiled through the coöperation of the National Research Council of Canada, contains information concerning 143 organizations. The volume is for sale by the National Research Council, 2101 Constitution Avenue, Washington, D.C., at $4.00 a copy.

Worthy P. Stevens, of Washington, D.C., died May 17, 1942.

Wendell Melville Strong, of New York, died March 30, 1942.

Resignations and Appointments

Ralph S. Alexander of the School of Business, Columbia University, is on leave of absence for the year 1942-43, serving with the War Production Board.

Clark Lee Allen, instructor in economics at Duke University, is with the Textile Division of the Office of Price Administration in Atlanta.

J. Ellwood Amos of the department of finance at the University of Pittsburgh, has been promoted to associate professor.

William C. Arther, instructor in advertising at the University of Pittsburgh, has been commissioned a Captain in the Army Air Corps and is stationed at Miami.

Roy Ashmen, instructor in accounting and business administration at the Louisiana State University, is now a Lieutenant (j.g.) in the Naval Reserve, stationed at Jacksonville, Florida.

Jules Backman, instructor in the department of economics, New York University, has accepted a position as consultant with the Office of Price Administration.

D. M. Beights, professor of accounting at the University of Florida, served as accountant for the Civil Service Commission in Washington during the past summer.

Rollin F. Bennett of the School of Business, Columbia University, has been granted leave of absence to continue his work with the War Production Board, Washington.

T. C. Bigham has resigned as secretary and director of research of the Board of Investigation and Research, Washington, and will return to the University of Florida in September.

Robert Bingham, teaching fellow in economics at the University of Michigan, has joined the Industries Section of the National Resources Planning Board.

Richard M. Bissell has been appointed associate professor of economics at Massachusetts Institute of Technology.

Arend E. Boer of the department of commerce at the University of Pittsburgh, has been promoted to associate professor.

Samuel E. Braden, assistant professor of economics at Indiana University, has been given leave of absence and is now on the staff of the Combined Raw Materials Assignment Board.

Harry G. Brainard, head of the department of economics at Southern Illinois Normal University, has been granted a leave of absence to accept a position as senior business analyst in the Rubber Products Branch, Industrial Manufacturing Price Division, of the Office of Price Administration.

Victor Z. Brink of the Columbia University School of Business has been called into service as a Captain in the Army.

Henry Brodie, senior assistant and part-time instructor in the department of economics, New York University, has accepted a position as economist with the Office of Strategic Services.

Henry Buechel, who has served as lecturer in economics at the University of Washington during part of last year, has been reappointed for the year 1942-43.

William F. Butler, instructor in economics at the University of Virginia, is associate economist in the Division of Research and Statistics of the War Production Board.

Alexander E. Cance has resigned as head of the department of economics at Massachusetts State College, but will remain during the duration of war as professor of economics.

H. Peter Carstensen, instructor in marketing and public utilities at the University of Pittsburgh, is with the Bureau of Ships, Navy Department, Washington.

C. Lawrence Christenson of Indiana University is serving as regional price executive in the Office of Price Administration, in Chicago.

William C. Cleveland has been granted leave of absence from Indiana University to accept a position as principal economist with the National Resources Planning Board.

R. S. Cornish, formerly at Waynesburg College, has been appointed professor of finance for one year in the College of Business Administration of the University of Georgia.

Mary M. Crawford has been promoted to assistant professor of economics at Indiana University.

James Cross is now with the Office of Price Administration, Washington.

Carl T. Crumrine, instructor in business administration at Louisiana State University, has resigned to accept a position with the Office of Price Administration, New Orleans.

Sidney Davidson has left his work as teaching fellow in accounting at the University of Michigan to become an Ensign in the Naval Ordnance Department.

Harvey Deinzer, teaching fellow in economics at the University of Michigan, has taken a position in the Fiscal Division of the Bureau of the Budget.

Russell A. Dixon of the department of economics at the University of Pittsburgh has been promoted to associate professor.

C. H. Donovan, associate professor of economics at the University of Florida, is on leave while serving as a Lieutenant (j.g.) in the Navy.

Helen Dorsey has been appointed instructor in the department of economics and business administration at West Virginia University.

George A. Douglas has been appointed professor of economics and sociology at Sterling College.

C. F. Dunham, professor of accounting at the University of Mississippi, taught accounting at Louisiana State University during the 1942 summer session.

Cecil Dunn has been appointed instructor in economics at Occidental College.

Robert H. S. Eakens is now an economist with the Petroleum Branch in the Fuels Division of the Office of Price Administration.

James S. Earley, associate professor of economics at the University of Wisconsin, has been granted a year's leave of absence to work with the Office of Price Administration, Washington.

Herman A. Ellis, assistant professor in the College of Business Administration, University of Georgia, has been given a leave of absence to take a teaching position on the staff of the United States Naval Training School at Indiana University.

Paul T. Ellsworth, professor of economics at the University of Wisconsin, has been granted an indefinite leave of absence to serve with the Board of Economic Warfare, Washington.

Elmer D. Fagan of Stanford University taught courses in economics and public finance at the University of Washington summer session.

Allan J. Fisher has resigned as assistant professor of business administration at the University of Maryland to accept a position at the Securities and Exchange Commission.

Leo Fishman, junior assistant in the department of economics at New York University, has accepted a position as economist with the War Production Board.

Dorsey Forrest has been appointed an instructor in business organization at the Ohio State University.

Louis O. Foster, assistant professor of economics at Western Reserve University, has joined the Office of Price Administration, Washington, as senior business analyst in the Rubber Products Division.

Robert W. French, assistant professor of business administration and assistant director of the Bureau of Business Research of Louisiana State University, has been promoted to associate professor and continues as assistant director of the Bureau.

Morris Friedberg has been appointed professor of economics and chairman of the department of economics and sociology at Simmons College.

Philip L. Gamble has been promoted to professor of economics and has been appointed head of the department of economics at Massachusetts State College.

E. A. Gaumitz, associate professor of insurance at the University of Wisconsin, has been granted a leave of absence to serve as chief economist of the Chicago Regional Office of the Office of Price Administration and also as State Price Officer for Minnesota, with headquarters at St. Paul.

Henry Glass, junior assistant in the department of economics at New York University, has accepted a position as associate economist with the Office of Price Administration.

Robert E. Graham, acting associate professor of economics at the University of Virginia, has been called to service in the Army as Lieutenant of Infantry.

Harold M. Groves, professor of economics is returning to the University of Wisconsin this fall after serving as a consultant to the Treasury Department, Washington.

William Haber, professor of economics at the University of Michigan, who has been assisting the Director of the Budget on problems of compensation and pensions, is now director of the Division of Planning of the War Manpower Commission.

Morrison Handsaker, acting chairman of the department of economics at Occidental College, has been serving part-time as a mediation officer for the War Labor Board.

Clifford Hardin, formerly extension specialist in agricultural marketing at the University of Wisconsin, has been promoted to assistant professor of agricultural economics.

Robert D. Haun, professor of accounting at the University of Kentucky, has been

granted a year's leave of absence to serve as Price Executive with the Office of Price Administration, in Louisville.

Michael A. Heilperin has been appointed associate professor of economics at Hamilton College, for the year 1942-43.

Robert Henderson of Ohio State University has been appointed to an instructorship in marketing at the University of Kansas.

W. Braddock Hickman, who has been a member of the Institute for Advanced Study, Princeton, during the past year, will become a research associate for the National Bureau of Economic Research in the fall.

J. Richard Huber has been promoted to associate professor of economics in the College of Economics and Business at the University of Washington.

Stanley F. Jablonski, assistant professor of accounting at the Erie Center, University of Pittsburgh, will come to the Pittsburgh campus as assistant professor in accounting for the year 1942-43.

Keith W. Johnson resigned his position as instructor in economics at Franklin and Marshall College to become an assistant economic analyst with the Construction Staff of the Bureau of Foreign and Domestic Commerce, Washington.

Lloyd Johnson has reigned as instructor at the University of Florida to accept a position with the Atlanta regional office of the Office of Price Administration.

Robert H. Johnson is on leave of absence from the department of economics and business administration of West Virginia University and has accepted a position as economist with the War Production Board, Washington.

Karl W. Kapp, instructor in the department of economics at New York University, has accepted a position as consultant with the Office of Strategic Services.

Forrest E. Keller, associate professor of economics at West Virginia University is on leave of absence, serving as economist with the War Production Board, Washington.

Arthur Kemp, formerly senior assistant and part-time instructor in the department of economics of New York University, has accepted an instructorship in economics at Yale University.

Fred O. Kiel has returned to his position as assistant professor of marketing at the University of New Mexico.

Charles C. Killingsworth has been appointed instructor in economics at the Johns Hopkins University.

Paul A. Kohler taught accounting at Louisiana State University during the 1942 summer session.

Richard Landry, formerly of Amherst College and the University of Chicago, has been appointed instructor in economics at Beloit College.

Richard A. Lester will resume his teaching duties at Duke University in September after a year's leave of absence for service in the government.

Thomas A. Leyden, instructor in accounting at the College of Business Administration University of Georgia, has resigned to take a position at Rider College.

Victor M. Longstreet has been granted military leave by the Board of Governors of the Federal Reserve System, where he was chief of the banking section of the Division of Research and Statistics, to accept a commission as Captain in the Army Air Forces, with the Analysis and Plans Branch of the Matériel Command.

A. N. Larig of the University of Washington taught accounting in the summer session of the School of Business Administration at the University of Texas.

David W. Lusher has been advanced to the rank of assistant professor at Bowdoin College.

Mrs. Marion T. Lyndon, associate professor of distributive education in the School of Business Administration, University of Tennessee, has resigned to accept a posi-

tion as chief of the Consumer Division of the Office of Price Administration in Nashville.

Edmund F. Macdonald of the University of Virginia has been commissioned in the Navy.

Patrick M. Malin of Swarthmore College is serving as associate director of the Export Price Control Office of the Office of Price Administration.

Charlotte Martin of Louisiana State University has been promoted to instructor in secretarial science and will continue to supervise the practice office of the secretarial science department.

Edgar Martin has resigned as instructor in economics at Beloit College to enter the Army.

James W. Martin, director of the Bureau of Business Research, University of Kentucky, was granted a leave of absence for the summer to work on tax problems with the Division of Tax Research, Treasury Department.

Carl A. Marzani, senior assistant and part-time instructor in the department of economics, New York University, has accepted a position as economist with the Office of Strategic Services.

John E. Mason, formerly with the Bureau of Agricultural Economics in a field position in Louisiana, is now an agricultural economist with the Agricultural Adjustment Agency, Washington.

H. H. Maynard of Ohio State University is serving as chairman of the War Price and Rationing Board, 25-6.

O. J. McDiarmid, on leave of absence from the College of William and Mary for the second semester of the academic year 1941-42, has accepted a position as senior economic analyst with the joint War Production Committee for the United States and Canada.

Marvin C. McFeaters has transferred from the Farm Credit Administration to the Office of Price Administration as a business economist.

Clarence H. McGregor, formerly associate professor of commerce and industry at Western Reserve University in Cleveland, is now chief of the Industry Relations Unit of the Office of Price Administration, Washington.

Francis E. McIntyre, recently promoted from assistant to associate professor, is on leave from Indiana University to serve as principal economist in the Requirements Section of the Lease-Lend Administration.

Thomas F. McManus, who has been a lecturer in the department of economics at New York University, has accepted a position as principal economist with the Office of Price Administration.

Francisco A. Mendieta is dean of the recently organized School of Economics at the Central University of Nicaragua, where he is also professor of money, credit and banking.

Robert Minor is now an economist in the Office of Price Administration for Ohio.

Royal E. Montgomery of Cornell University served as chairman of the arbitration board which met in New York during May to hear the issues of a wage dispute between the freight handlers and the freight-forwarding companies.

Bruce A. Morris has resigned as assistant professor of economics at Washington and Jefferson to accept a position with the Office of Price Administration.

W. P. Mortenson of the agricultural economics department of the University of Wisconsin is on leave of absence to work with the War Production Board.

J. E. Morton, associate professor of statistics and economics at Knox College, spent the summer as a research associate with the National Bureau of Economic Research.

Paul Nichols has been appointed instructor of economics at Denison University for the year 1942-43.

H. C. Nolen of Ohio State University is giving part-time service as a specialist in drug merchandising in the Office of Price Administration.

Frank C. Pierson of Swarthmore College is serving as chairman of the hosiery dyeing and finishing industry and as special arbitrator for the National War Labor Board.

W. Harold Read, associate professor of accounting at the University of Tennessee, has entered the Army as a Lieutenant.

L. B. Raisty, professor of public administration, College of Business Administration at the University of Georgia, has resigned to accept a position in the Federal Reserve Bank of Atlanta.

Roy L. Reierson, who has been a lecturer in the department of economics at New York University, has been commissioned a Lieutenant in the Naval Air Corps and is stationed at Washington.

Warren A. Roberts, associate professor of economics at Western Reserve University, is now on leave while serving as a senior retailing merchandising price specialist with the Office of Price Administration, located in Cleveland.

George F. Rohrlich has been appointed instructor in the division of social studies of Sweet Briar College beginning this fall.

Leonard Salter, assistant professor of agricultural economics at the University of Wisconsin, is on leave of absence for the current academic year.

Edwin R. Van Sant is with the Food Section of the War Production Board.

Oliver Sarosi has accepted an appointment as associate professor of economics at Hartwick College.

Arthur Schenkel is now teaching blind-flying in the Army Air Force.

Emerson P. Schmidt of the University of Minnesota is serving as chairman of the Manitoba Electrification Enquiry Commission, appointed by Premier John Bracken to develop a post-war employment program and at the same time bring electric power to Manitoba farmers.

Charles H. Sheldon, instructor in transportation at the University of Washington, has accepted a position as economist with the United States Maritime Commission, Washington.

Leonard Silk, part-time instructor in economics at Duke University, has been inducted into the Army.

Lillian Silver, junior assistant in the department of economics, New York University, has accepted a position with the Office of Price Administration.

Reuben Slesinger, instructor in economics at the University of Pittsburgh, has been inducted into the Army.

Arthur Smithies, associate professor of economics at the University of Michigan, has been acting as consultant with the British Empire Division of the Board of Economic Warfare.

Tipton R. Snavely of the University of Virginia was recently appointed chairman of the State Milk Commission of Virginia. Professor Snavely served as a member of the Commission from 1934-39 and as chairman in 1938-39.

Joseph J. Spengler of Duke University has been named Price Executive for the Southeastern States, Office of Price Administration, and will be located at Atlanta.

Henry W. Spiegel has been promoted to associate professor of economics at Duquesne University.

John Y. Springer of Duke University has received a commission as Lieutenant in the Naval Reserve and is now in active service.

George D. Stevens has been given a leave of absence from his position as instructor at Flint Junior College and is employed by General Motors.

Sara Stites has retired from the position as chairman of the department of economics and sociology at Simmons College and has become professor emerita.

Paul Studenski of the department of economics, New York University, has accepted a position as consultant with the Board of Economic Warfare.

Glenn W. Sutton, professor of finance in the College of Business Administration of the University of Georgia, has been given a leave of absence while serving as a Lieutenant in the Naval Reserve.

James H. Symons, formerly an instructor in the department of economics at New York University, has accepted a position with the College of New Rochelle.

Philip E. Taylor, acting head of the department of economics at Trinity College, Hartford, has been given a leave of absence to accept a position with the Bureau of Labor Statistics as state price economist for Connecticut.

W. Bayard Taylor, professor of finance at the University of Wisconsin, has been granted a leave of absence to serve as state price officer for Wisconsin, with headquarters at Milwaukee.

Lawrence W. Towle, formerly associate professor of economics at Lawrence College has accepted a position as professor of economics and head of the department of economics at Trinity College, Hartford.

John G. Turnbull, instructor in economics at Denison University, has been granted a leave of absence for the academic year 1942-43, to enable him to accept a fellowship at Massachusetts Institute of Technology.

Sidney Wachtel, junior assistant in the department of economics at New York University, has accepted a position as economist with the Office of Price Administration.

Eliot Waples has been appointed an instructor in agricultural economics at Purdue University.

R. L. Weissman is now with the Public Utilities Division of the Securities and Exchange Commission.

James M. Whittsett, formerly assistant professor of banking and finance at Cleveland College, Western Reserve University, is now a Lieutenant, stationed at Wright Field, Dayton.

Claire Wilcox is on leave from Swarthmore College to serve as director of the Industrial Materials Price Division of the Office of Price Administration.

J. W. Wiley, instructor in economics at Purdue University, has been given leave of absence to serve in the Chicago office of the Office of Price Administration.

THIRTY-NINTH LIST OF DOCTORAL DISSERTATIONS IN POLITICAL ECONOMY IN PROGRESS IN AMERICAN UNIVERSITIES AND COLLEGES

The first list of this kind was dated January 1, 1904, and was sent to all members, but not regularly bound in the publications. A notation as to the earlier lists, extending from 1905 to 1927, may be found in the *Review* for September, 1927, page 574. Annual lists thereafter are to be found in the September number of the *Review* for each year.

The present list specifies doctoral degrees conferred, doctoral dissertations completed and accepted by the various universities, and the theses still in preparation. The last date given is the probable date of completion. In cases where the publishers of completed dissertations were given, this information has been reported.

The list represents the status of the several theses on May 1, 1942, except for a few items later reported as completed or published.

Economic Theory; General Works

Degrees Conferred

MORTIMER ANDRON, Ph.D., Illinois, 1942. Economic theory in the light of modern psychology.

DAVID W. LUSHER, Ph.D., Harvard, 1942. The structure of interest rates; a theoretical and empirical analysis of its characteristics and cyclical behavior.

JOSEPH LAWRENCE MCCONNELL, Ph.D., Iowa, 1941. The contribution of John A. Hobson to economic thought.

LLOYD A. METZLER, Ph.D., Harvard, 1942. Interregional income generation.

HAROLD MILTON SOMERS, Ph.D., California, 1942. National income: a statistical and theoretical analysis.

LELAND ELDRIDGE TRAYWICK, Ph.D., Illinois, 1942. Parallelisms in the economic ideas of Karl Marx and Thorstein Veblen.

GEORGE WILLIAM ZINKE, Ph.D., California, 1941. The problem of Malthus: an attempted reconciliation of the rigidity of the "principle of population" with the flexibility of the short-period analysis.

Theses Accepted and Completed

GEORGE HERBERT HILDEBRAND, JR., A.B., California, 1934. The theory of markets and the problem of economic crises, from Quesnay to Marx: a study in the history of economic thought. 1942. *Cornell.*

Theses in Preparation

SIDNEY S. ALEXANDER, S.B., Harvard, 1936; A.M., 1938. Theory of resource utilization. 1943. *Harvard.*

AMOS L. ARCHIBALD, A.B., California, 1936. The Ricardian socialists: economic doctrines and programs of reform. 1942. *California.*

IVAR AXELSON, A.B., Yale, 1919; A.M., Oklahoma, 1928. Process of savings and investment. 1943. *Columbia.*

ALBERT R. BEISEL, JR., A.B., Dartmouth, 1931; LL.B., Yale, 1934. Legal and economic aspects of the theory of depreciation. 1943. *Columbia.*

JULIO N. BERRETTONI, B.Com., British Columbia, 1937; M.S., Iowa State, 1938. Criticisms of empirical studies in the theories of production and distribution. 1945. *Minnesota.*

ROBERT MITCHELL BIGGS, A.B., Wayne, 1939; A.M., Michigan, 1940. The historical aspects of the development of the concept of capital. 1943. *Michigan.*

YALE BROZEN, A.B., Chicago, 1939. Some economic aspects of technological change. 1942. *Chicago.*

AVERY B. COHAN, A.B., Cornell, 1934; A.M., Columbia, 1942. The nature of competition. 1943. *Columbia.*

RICHARD M. DAVIS. The concept of profits in contemporary economic literature. 1943. *Cornell.*

JAMES DINGWALL, A.B., Queens, 1938; A.M., 1939. A history of English theories of the economic rôle of the state. 1942. *Chicago.*

J. FAGG FOSTER, B.S., East Texas State Teachers, 1935; M. Ed., Texas, 1938. Theory of institutional adjustment. 1943. *Texas.*

RICHARD SEBASTIAN HOWEY, S.B., Harvard, 1926; A.M., Southern California, 1929. A history of the utility concept in economic theory. 1942. *Chicago.*

LAWRENCE KEGAN, A.B., College of the City of New York, 1935; M.A., Columbia, 1938. Problems related to the theory of production and capital. 1943. *Columbia.*

J. L. LOVE, B.S. Ed., North Eastern State Teachers College of Missouri, 1932; M.A., Texas, 1937. History of incremental cost-price theory. 1943. *Texas.*

ARTHUR EDWARD MACE, JR., A.B., Amherst, 1938. Economics of wage differentials. 1942. *Chicago.*

GEORGE T. MATTHEWS, A.B., Columbia, 1939; A.M., 1940. Economic ideas of the French philosophers. 1943. *Columbia.*

HERBERT CARPENTER MORSE, A.B., Oberlin, 1932; A.M., Columbia, 1941. Essays in the theory of trade. 1943. *Columbia.*

RUSSELL TOULMIN NICHOLS, A.B., DePauw, 1929. Theory and measurement of national income. 1942. *Chicago.*

ALBERT RICHARD OXENFELDT, B.S., Pennsylvania, 1937; Columbia, 1938. New firms and free enterprise. 1942. *Columbia.*

GEORGE SCHULLER, B.S., New York, 1931. Bargaining power in relation to the determination of prices and incomes. 1942. *Columbia.*

WILLIAM H. SHAW, A.B., Columbia, 1930; A.M., 1931. Commodity flow and capital formation, 1879-1919. 1943. *Columbia.*

ALLEN M. SIEVERS, A.B., Chicago, 1939; A.M., Columbia, 1941. Nomics and economics. 1943. *Columbia.*

WILLIAM JORDAN JOSEPH SMITH, A.B., Texas. Theories of capital formation between the two World Wars. 1943. *Duke.*

JAMES HARTMANN STAUSS, A.B., Grinnell, 1936; S.M., Iowa State, 1937. History and criticism of American theories of profit. 1942. *Wisconsin.*

JAMES H. SYMONS, A.B., Seton Hall, 1930; A.M., Columbia, 1937. The mature economy in economic theory. 1944. *New York.*

R. H. VAN VOORHIS. Borrowing your way into socialism: the economics of Pierre Joseph Proudhon. 1943. *Duke.*

CHARLES S. WYAND, A.B., Pennsylvania State, 1929; A.M., 1934. The economics of replacement demand. 1943. *Columbia.*

Economic History

Degrees Conferred

MIRON BURGIN, Ph.D., Harvard, 1941. The economic aspects of Argentine federalism, 1820-1852.

SETH HAMMOND, Ph.D., Harvard, 1941. Cotton industry of this century.

RALPH MURRAY HAVENS, Ph.D., Duke, 1941. Laissez-faire in the United States during nineteenth century depressions.

THOMAS WALTER JOHNSON, Ph.D., Chicago, 1941. William Allen White defends America.

JOSEPH THEODORE MORGAN, Ph.D., Harvard, 1941. Development of the Hawaiian economy, 1778-1876.

Theses Accepted and Completed

WILLIAM C. BAGLEY, A.B., Yale, 1930. Soil exhaustion, slavery, and the Civil War. *Columbia.*

PHILIP A. CROWL, A.B., Swarthmore, 1936; A.M., Iowa, 1939. The critical period in Maryland, 1782-1787. 1942. *Johns Hopkins.*

WILLIAM DIAMOND, A.B., Johns Hopkins, 1937. President Wilson's concept of American economy. 1942. *Johns Hopkins.*

ROBERT LORENZ, Dip. Agric., Breslau. The essential features of Germany's agricultural policy from 1870 to 1937. 1941. *Columbia.* (Privately printed.)

MARGARET E. MARTIN, A.B., Barnard, 1933; A.M., Columbia, 1934. Merchants and trade of the Connecticut River valley, 1750-1820. *Columbia.* (Published as a Smith College Study in History.)

MARGARET RICHARDS PABST, A.B., Vassar, 1931; A.M., Chicago, 1932. Some trends in agriculture in the Connecticut River valley region of Massachusetts during the nineteenth century. *Columbia.*

Theses in Preparation

VOJTECH E. ANDIC, Com. Engineer, Prague, 1934. Czechoslovak contributions to America's making. 1934. *Columbia.*

PAUL H. BEIK, A.B., Union, 1935; A.M., New York Teachers College, 1938; A.M., Columbia, 1939. Public finance in Provence before the French Revolution. 1943. *Columbia.*

WYATT W. BELCHER, A.B., Oklahoma, 1932; A.M., 1932. Economic rivalry between St. Louis and Chicago, 1850-1880. 1943. *Columbia.*

MARION D. BONZI, A.B., Rockford, 1928; A.M., Illinois, 1929. George M. Pullman and the Pullman Company. 1942. *Chicago.*

FRANKLIN W. BURTON, B.A., Toronto, 1930; A.M., Harvard, 1933. The Canadian grain trade. *Toronto.*

ROBERT F. CAMPBELL, A.B., Yale, 1939; A.M., Columbia, 1940. The New York business community and politics. 1943. *Columbia.*

GRACE CHINN, A.B., Washington, 1940; A.M., 1942. Waterworks for public control in Chinese history. 1943. *Columbia.*

THEODORE COHEN, B.S.S., College of the City of New York, 1938; A.M., Columbia, 1939. Merchant capital in feudal Japan. 1943. *Columbia.*

JOEL G. COLTON, A.B., College of the City of New York, 1937; M.S. in Ed., 1938; M.A., Columbia, 1940. Position of the laborer in French mercantilist thought, 1700-1750. 1943. *Columbia.*

PETER H. DELANEY, II, A.B., Yale, 1937; A.M., 1939. Economic readjustments in Rhode Island, 1783-1800. 1943. *Columbia.*

JAMES H. EASTERBY, A.B., Charleston, 1920; A.M., Harvard, 1922. The South Carolina rice plantation as revealed in the papers of Robert F. W. Allston. 1942. *Chicago.*

JOHN WILLIAM FREDRICKSON, S.B., Northwestern, 1938. The American Merchant Marine, 1820-1860. 1942. *Chicago.*

RUDOLF W. FREYHAN. On reciprocal reactions and repercussions of the economic and political decay of the ruling class in the early Victorian age. 1942. *Chicago.*

WILLIAM BYRAM GATES, JR., A.B., Williams, 1939. Government reorientation of social and economic life during the Civil War: a study of federal, state, and local controls over economic activity in the North, 1861-1865. 1942. *Chicago.*

THEODORE GEIGER, B.S.S., College of the City of New York, 1935. The economic organization of slavery in ante-bellum Virginia. 1943. *Columbia.*

WILLIAM HALLER, JR., A.B., Columbia, 1936; A.M., 1938. Frontier settlement in Puritan New England, 1620-1670. 1943. *Columbia.*

CLYDE E. HEWITT, A.B., Aurora, 1937; A.M., Chicago, 1939. Venezuela and the origins of dollar diplomacy. 1942. *Chicago.*

DOUGLAS JAMES, B.S., Princeton, 1929; A.M., Columbia, 1931. The commercial relations of the Levant with western Europe, 1815-1869. 1943. *Columbia.*

JOHN A. LEVANDIS, B.S., Delaware, 1921; A.M., Columbia, 1922. The history of financial control in Greece. 1942. *Columbia.*

D. E. MCCOWN, A.B., California, 1932. An historical study of the material culture of Iran before the middle of the third millennium B.C. 1942. *Chicago.*

CYRIL NEIL MCKINNON, A.B., Marquette, 1925; A.M., 1936. The breakdown of the guilds. 1942. *Chicago.*

JAMES W. PAUL, B.S.S.T.C., Troy (Alabama), 1932; B.D., Southern Methodist, 1935; A.M., 1935. Trade and politics in Palestine during the Bronze Age. 1942. *Chicago.*

ANDREW WARREN PIERPONT, A.B., Washington and Lee, 1928; M.B.A., Harvard, 1931. The economic history of Burlington, North Carolina. 1943. *North Carolina.*

JOAN PIFER, A.B., Vassar, 1935; A.M., Columbia, 1936. The Kingdom of Piedmont, 1815-1830: an economic and social study. 1943. *Columbia.*

RAYMOND ADRIEN DE ROOVER, L.S.C.F., Institut Sup. de Commerce, 1924; M.B.A., Harvard, 1938. Banking, money, and credit in medieval Bruges: merchant-bankers, lombards, money-changers, and usurers. 1942. *Chicago.*

WALTER SANDERLIN, A.B., American, 1940. The impact of the international economic crisis of 1837-1840 in England. 1944. *Johns Hopkins.*

HARLAN SCOTT WHITE, A.B., DePauw, 1935; A.M., Indiana, 1942. Western banking ideas and practices before 1840. 1943. *Indiana.*

WILLIAM C. WILBUR, JR., A.B., Washington and Lee, 1937. The influence of Fabian socialism on the Liberal party. 1943. *Columbia.*

EDWARD B. WILLIAMS, A.B., Morehouse, 1927; A.M., Atlanta, 1937. The Negro in industry in the ante-bellum South. 1943. *Columbia.*

Economic Systems; National Economics

Theses in Preparation

MEHMET KUTSI BEDGES, A.B., Robert College (Istanbul), 1938; A.M., Indiana, 1940. Economic reorganization of the Balkan states. 1943. *Indiana.*

ROLAND BUFORD BRANDIS, JR., A.B., Richmond, 1937; A.M., Duke, 1939. British war economy, September 1939-September 1941. 1942. *Duke.*

GEORGE HAY BROWN, A.B., Oberlin, 1929; M.B.A., Harvard, 1931. The economic position of New Zealand. 1942. *Chicago.*

KENNETH K. KURIHARA, B.A., Ohio Wesleyan, 1935; M.A., Oberlin, 1936. A critical analysis of Philippine national economy with special reference to labor problems under the American regime to 1941. 1943. *Iowa.*

HARRIS LOEWY, B.A., New York, 1935; A.M., 1937. Brazil: from monoculture to industrialization—an analysis of certain phases of Brazilian economy. 1942. *New School for Social Research.*

Statistics; Economic Mathematics; Accounting

Degrees Conferred

LOUIS M. COURT, Ph.D., Columbia, 1942. Entrepreneurial and consumer demand theories for commodity spectra.

EVERETT HERSHELL JOHNSON, Ph.D., Michigan, 1942. The time factor in correlation with reference to certain forecasting problems in business.

JAMES SAMUEL LANHAM, Ph.D., Texas, 1942. Accounting for depreciation and depletion in the petroleum industry.

WILLIAM LLOYD LEAVITT, Ph.D., Illinois, 1942. Weight bias in value weighted indexes of physical production.

JENNINGS BLAND POPE, Ph.D., Texas, 1942. Evolution of the systems of accounts prescribed for public utilities by state and federal regulatory commissions.

JOHN HENRY SMITH, Ph.D., Chicago, 1941. Statistical deflation in the analysis of economic series.

FLADGER FREEMAN TANNERY, Ph.D., Texas, 1941. Accounting for state governments.

Theses Accepted and Completed

JOHN WADSWORTH GUNTER, B.S., North Carolina, 1935; A.M., 1939. Factor analysis of commodity prices. 1942. *North Carolina.*

JOHN YOUNG SPRINGER, A.B., Stanford, 1927; M.B.A., 1929. An analysis of seven leading index numbers of prices of industrial stocks on the New York Stock Exchange. 1942. *Stanford.*

Theses in Preparation

KENNETH J. ARROW, B.S., College of the City of New York, 1940. Analysis of economic time series. 1943. *Columbia.*

PHILIP WILLIAM BISHOP, B.Com., London, 1927. A history of accounting in United States and Great Britain since 1900. 1942. *Yale.*

THOMAS GREGORY CHARTERS, A.B., Manhattan, 1927; M.S., Canisius, 1929. Financial statements. 1943. *Columbia.*

LEE GLOVER, B.S., Alabama, 1922; A.M., Chicago, 1928. Fixed and variable costs and their application in cost analysis. 1942. *Columbia.*

ALEXANDER L. HART, A.B., Pennsylvania State, 1936; M.A., 1937. Estimation of the sampling error for a stratified sample of farm incomes in Minnesota. 1942. *Minnesota.*

FRANK S. KAULBACK, B.S., Virginia, 1934. Accounting aspects of the excess profits tax. 1943. *Virginia.*

HENRY AUGUST KRIEBEL, B.S., Lehigh, 1932; A.M., 1937. Special purpose financial statements. 1943. *Columbia.*

CHARLES WILLIAM LAMDEN, A.B., California, 1937; M.A., 1939. Legal problems in corporate accounting. 1943. *California.*

DANIEL LIPSKY, A.B., Columbia, 1931; M.S., 1934. A reëxamination of accounting principles and some applications, with particular reference to published reports. *Columbia.*

JOSEPH A. MAURIELLO, B.S., New York, 1939; M.B.A., 1940. Analysis of variations in standard costs, sales and profits. 1944. *New York.*

IRVING H. SIEGEL, B.S., College of the City of New York, 1934; M.A., New York, 1935. The measurement of production and related concepts. 1943. *Columbia.*

WASHINGTON SYCIP, B.S.C., Univ. Santo Tomas (Manila), 1939; M.S.C., 1940. Relationship between economic and accounting theory. 1944. *Columbia.*

G. MAXWELL ULE, M.B.A., Chicago, 1937. The statistical allocation of advertising appropriations for a durable consumer good. 1942. *Chicago.*

WILLIAM JOSEPH VATTER, B.S., Miami, 1934; M.B.A., Chicago, 1937. An application of measurement theory to accounting procedures. 1942. *Chicago.*

HERSCHEL LEE WALDRON, A.B., Hendrix, 1924; S.M., Oklahoma Agricultural and Mechanical, 1932; S.B., Central State Teachers (Oklahoma), 1938. State supervision of municipal accounting. 1942. *Chicago.*

HAROLD H. WEIN, B.S.S., College of the City of New York, 1936; A.M., Columbia, 1939. Reliability of statistical formulas. 1943. *Columbia.*

CARL RICHARD YOUNGDAHL, B.A., Augustana, 1937; M.A., Fletcher School of Law and Diplomacy, 1938. The theory of inventories. 1944. *Minnesota.*

Business Cycles and Fluctuations

Degrees Conferred

SHAN-KWEI FONG, Ph.D., Harvard, 1941. An application of period analysis to the theory of international money mechanism.

SVEND LAURSEN, Ph.D., Harvard, 1941. International propagation of business cycles.

MAURICE MOONITZ, Ph.D., California, 1941. Obsolescence, industrial policy, and the problem of economic stability.

DAVID ROCKEFELLER, Ph.D., Chicago, 1940. Unused resources and economic waste. (Published by University of Chicago Press.)

ALBERT ROSE, Ph.D., Illinois, 1942. Cyclical problems in Canadian post-war readjustment.

RICHARD RUGGLES, Ph.D., Harvard, 1942. Price structure and distribution over the cycle.

JOSEPH CHARLES SEIBERT, Ph.D., Northwestern, 1941. Price behavior and industrial activity.

GEORGE W. VAN VLECK, Ph.D., Columbia, 1942. The panic of 1857. (Published by Columbia University Press.)

Theses in Preparation

JANET AUSTRIAN, A.B., Bennington, 1939. Acceleration and retardation in rates of expansion during the upswing of the business cycle. 1943. *Columbia.*

HAROLD BURKE HORTON, B.B.A., Texas, 1937; M.B.A., 1938. The relationship between agricultural commodity price fluctuations and business cycles in the United States, 1918-1939. 1944. *Columbia.*

MARTIN V. JONES, M.B.A., Chicago, 1940. Unemployment and cyclical fluctuations. 1942. *Chicago.*

FRANK L. KIDNER, A.B., California, 1938. California business cycles, 1918-1938. 1942. *Columbia.*

THOMAS HAYES MOORE, B.S., Roanoke, 1938. The position of economists concerning wage changes at various stages of conjuncture. 1943. *Duke.*

JAMES NEWTON MORGAN, A.B., Northwestern, 1939; A.M., Harvard, 1941. Inventories and industrial fluctuations: a statistical and theoretical study. 1943. *Harvard.*

ERNEST L. OSBORNE, Ph.B., Yale, 1912; B.S., in C.E., Massachusetts Institute of Technology, 1914. South American trade cycles. *Columbia.*

ALAN L. RITTER, A.B., DePauw, 1935. A study of the flow of capital required to maintain the proper balance in our economic organization. 1943. *Wisconsin.*

HAROLD W. SASSE, B.S., New York, 1924; A.M., Columbia, 1938. Toward an understanding of business forecasting. 1943. *Columbia.*

DAVID SCHWARTZ, A.B., Columbia, 1938; A.M., California, 1941. Secular changes in American business cycle history. 1943. *Columbia.*

JULIUS SHISHKIN, A.B., Rutgers, 1934; A.M., 1936. The relation between seasonal and cyclical movements. 1943. *Columbia.*

William Walter Tongue, A.B., Dartmouth, 1937; M.C.S., Amos Tuck, 1938. Capital, money and the business cycle. 1942. *Chicago.*

Dan Rutledge Vining, B.B.A., Texas, 1931; A.M., 1935. The regional transmission of economic disturbances. 1942. *Chicago.*

Public Finance; Fiscal Policy; Taxation

Degrees Conferred

Marvin Augustus Bacon, Ph.D., Michigan, 1941. The shifting of the gasoline tax and its effect on gasoline consumption: an inductive study.

Philip D. Bradley, Ph.D., Harvard, 1942. Some aspects of corporate income taxation.

John A. Bryson, Ph.D., New York, 1942. The economic effects of undistributed profits tax of 1936.

Jesse Verlyn Burkhead, Ph.D., Wisconsin, 1942. The fiscal control of inflation.

John Keith Butters, Ph.D., Harvard, 1941. Federal taxation of corporate profits.

Carl J. Folkerts, Ph.D., Iowa, 1941. The effect of public expenditure upon national income.

Herbert Walter Hargreaves, Ph.D., Duke, 1941. Federal fiscal policy and the guaranteed debt, 1932-1940.

Walter Wolfgang Heller, Ph.D., Wisconsin, 1941. State income tax administration.

(Alfred) Norman Nybroten, Ph.D., Wisconsin, 1941. Tax assessment and equalization with special reference to the Wisconsin system.

J. Richards Petrie, Ph.D., McGill, 1941. The tax systems of Canada.

Alonzo Smith Pond, Ph.D., Northwestern, 1942. Urban special assessments in down state Illinois, 1925-1937.

Theses Accepted and Completed

Fred A. Clarenbush. The problem of reorganizing the finances of local government in Ozark landuse adjustment areas. 1941. *Cornell.*

Rodman Merrell Sullivan, A.B., Georgetown, 1923; A.M., Kentucky, 1929. The inheritance tax in Kentucky: its history and operating results as indicated by an analysis of the inheritance tax returns. *North Carolina.*

Vernon L. Israelson, S.B., Utah State Agricultural, 1929; A.M., Brigham Young, 1937. Social and economic aspects of homestead tax exemption. 1942. *Wisconsin.*

Theses in Preparation

Martin Atlas, A.B., New York, 1934; A.M., Columbia, 1935. Collection of income tax at source. 1943. *Columbia.*

Dorothy Beal, A.B., Chicago, 1937. Federal lending, 1916-40. 1943. *Columbia.*

Louis Kohl Brandt, A.B., Whitewater State Teachers College, 1936; A.M., Wisconsin, 1941. Shifting and incidence of real property taxes. 1942. *Wisconsin.*

Harry C. Bulow, B.S., New York, 1937; M.B.A., 1938. Analysis of municipal revenue bonds. 1944. *New York.*

John Chalmers, A.B., Middlebury, 1938. New York state personal income tax, 1919-1942. 1943. *Cornell.*

Yau Pik Chau, A.B., Lingnan, 1929; A.M., Michigan, 1938. The taxation reform of Chinese national government in decade, 1927-37. 1942. *Chicago.*

Shin-hsin Chou, A.B., Yenching, 1935; A.M., California, 1940. The capital levy. 1943. *Columbia.*

Jerome B. Cohen, B.S.S., College of the City of New York, 1934; A.M., Columbia, 1935. The finances of the City of New York, 1929-1941. 1943. *Columbia.*

JAMES B. ECKERT, A.B., Oberlin, 1934; M.A., Cincinnati, 1936. The Reconstruction Finance Corporation. 1942. *Cornell.*

PAUL W. ELLIS, A.B., Willamette, 1931; A.M., Oregon, 1933. Taxation in relation to the policies and motives of business management. 1943. *Columbia.*

RALPH H. FARMER, A.B., Oberlin, 1916. Public finance theory in the United States before 1900. 1942. *Minnesota.*

LYLE C. FITCH, B.S., Nebraska State Teachers College, 1935; M.A., Nebraska, 1938. War finance and government debt. 1943. *Columbia.*

MARION HAMILTON GILLIM, A.B., Mt. Holyoke, 1930; A.M., Columbia, 1938. The incidence of excess profits taxation. 1943. *Columbia.*

RICHARD BENJAMIN GOODE, A.B., Baylor, 1937; A.M., Kentucky, 1939. The corporate institution and the tax problem. 1943. *Wisconsin.*

ARCHIE BRISTOL GOODMAN, S.B., Oklahoma Agricultural and Mechanical, 1936; A.M., Wisconsin, 1939. Property tax administration in Wisconsin. 1942. *Wisconsin.*

ANDREW GRAJDANZEV, M. of Econ., Harbin, 1932; M.A., Columbia, 1938. Financing of war by Japan. 1943. *Columbia.*

CLARA GREY, A.B., Mt. Holyoke, 1936. The remission of consumption taxes during a cyclical depression. 1943. *Columbia.*

FRANKLIN P. HALL, A.B., Oregon, 1929. Indiana gross income tax. 1942. *Wisconsin.*

LLOYD C. HALVORSON, B.S., Minnesota, 1939. The concept of normal value of land for appraisal programs. 1943. *Minnesota.*

LAWRENCE BENNET JACK, B.A., British Columbia, 1932; B.A., Oxford, 1935. Control of local government finance in the United States, Canada, and Australia. 1943. *McGill.*

JAMES RUDOLPH KAY, B.A., Birmingham-Southern, 1938. Administrative aspects of sales taxes with special reference to the state of Alabama. 1943. *Virginia.*

HERBERT ELIAS KLARMAN, A.B., Columbia, 1939; A.M., 1941. Excess and war profits taxes. 1943. *Wisconsin.*

AUGUST W. KNAUBER, B.S., College of the City of New York, 1939; M.S., 1940. Economic consequences of deficit financing. 1942. *Fordham.*

GEORGE E. LENT, A.B., Renssalaer Polytechnic, 1943; M.B.A., 1935. Wartime borrowing methods. 1943. *Columbia.*

RICHARD WADSWORTH LINDHOLM, B.A., Gustavus Adolphus, 1935; M.A., Minnesota, 1938. Franchise as the basis of taxing the corporation. 1943. *Texas.*

OSCAR FREDERICK LITTERER, A.B., Cornell College, 1929; A.M., Minnesota, 1932. The treatment of capital gains and losses in the income tax. 1942. *Wisconsin.*

MATILDA L. MILNE, A.B., Wellesley, 1928; M.B.A., New York, 1931. Defense borrowing and the control of credit. 1944. *New York.*

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Melville J. Ulmer, B.S., New York, 1937; M.A., 1938. The behavior and control of prices in the nonferrous metals industries. 1943. *Columbia.*

Marketing; Domestic Trade

Degrees Conferred

Joseph Louis Apodaca, Ph.D., Northwestern, 1942. Some aspects of advertising and of the advertisability of fruits and vegetables.

George Max Beal, Ph.D., Wisconsin, 1942. Contractual relations between growers and processors of cash crops in the United States.

Horace Brightberry Brown, Jr., Ph.D., Northwestern, 1941. The development and present status of the coöperative marketing of cotton in the state of Mississippi.

William Francis Brown, Ph.D., Northwestern, 1941. Department store market analysis.

Elmo L. Jackson, Ph.D., Harvard, 1942. The consumption of tobacco products; a descriptive economic analysis, United States, 1900-1940.

Alan Grover MacLeod, Ph.D., Harvard, 1941. The supply side of the New Hampshire milk markets.

Carroll D. Phillips, Ph.D., Minnesota, 1941. The organization of the wholesale fruit and vegetable market of Louisville, Kentucky.

Wendell R. Smith, Ph.D., Iowa, 1941. Iowa as a merchandise market.

Theses Accepted and Completed

Edward Eugene Gallahue, A.B., St. Viator, 1927; A.M., Catholic, 1933. Some factors in the development of market standards with special reference to food, drugs, and certain other household wares. *Catholic.*

Walter A. Gaw, Ph.B., Brown, 1929; A.M., Columbia, 1932. Some important trends in the development of magazines in the United States as an advertising medium. 1942. *New York.*

Theses in Preparation

Richard M. Alt, A.B., Harvard, 1932; A.M., 1940. Retail price policies and the consumer. *Harvard.*

Carl T. Arlt, A.B., Colgate, 1933. State and local restrictions on intrastate trade. 1942. *Cornell.*

Roy Ashmen, B.S. in Commerce, Drexel Institute, 1935; M.S., Columbia, 1936. A survey of market news with special reference to the price of butter. 1943. *Northwestern.*

Edward K. Austin, A.B., Alabama, 1925; M.S., Columbia, 1927. Pre-testing of advertisements. *Columbia.*

George A. Ballentine, A.B., Colgate, 1922; M.B.A., Harvard, 1924. Quotas—their use in planning and controlling selling activities. *Columbia.*

Leon A. Bosch, A.B., Hope, 1929; A.M., Illinois, 1930. Analysis of methods of determining salesman training program materials. 1943. *Northwestern.*

Walter Kenneth Bryden, B.A., Toronto, 1937; Oxford, 1939; M.A., Toronto, 1940. Development of wholesale trade in Toronto. *Toronto.*

Jay G. Hall, A.B., Western Ontario, 1934. A history of Marshall Field and Company. 1942. *Chicago.*

Leland Hess, A.B., Ripon, 1938. A study of the mail order business. 1942. *Chicago.*

George Louis Mehren, A.B., California, 1938. Voluntary orange marketing control programs in California. 1942. *California.*

George M. Pollard, A.B., George Washington, 1934; A.M., 1939. Cottonseed oil in the industrial complex. 1942. *Columbia.*

Warren Clyde Prance, B.S., Georgia, 1938; M.S., Virginia, 1939. An analysis of spot cotton and cotton textile prices. 1943. *Virginia.*

David Allen Revzan, Ph.B., Chicago, 1930; A.M., 1935. The wholesale price structure for oranges with special reference to the Chicago auction market. 1942. *Chicago.*

Hubert F. Stepp, A.B., Berea, 1938; M.A., Virginia, 1940. Economic and administrative aspects of milk marketing in Virginia under the state milk commission. 1943. *Virginia.*

Boone D. Tillet, M. Agr., North Carolina State College, 1930; D.J.S., St. Lawrence, 1939. Marketing leaf tobacco. 1943. *Fordham.*

Rayburn Dean Tousley, B.A. in Bus. Admin., Missouri, 1931; M.A., 1933. Methods of marketing fruits and vegetables with their application to Washington apples. 1943. *Northwestern.*

Hugh Gregory Wales, A.B., Washburn, 1932; M.B.A., Harvard, 1934. Kansas City fruit and vegetable market. 1943. *Northwestern.*

William C. Welden, B.S., Alabama Polytechnic, 1930; M.S., North Carolina State, 1934. The marketing of dairy products in the southern states. *Harvard.*

John Howard Westing, A.B., Calvin, 1932; M.B.A., Michigan, 1935. Marketing problems in the sugar refining industry. 1943. *Michigan.*

Alois Franz Wolf, Diplom.—Kaufmann, Handels-Hochschule, Berlin, 1925. Essays in economic forecasting, with special reference to fruit trade. 1942. *New School for Social Research.*

Mining; Manufacturing; Construction

Degrees Conferred

Clark Lee Allen, Ph.D., Duke, 1942. Effects of the utilization of synthetic fibers upon the organization of the southern textile industry.

Theses Accepted and Completed

Donald Fraser Martin, A.B., Davidson, 1929; A.M., North Carolina, 1932. An historical and analytical approach to the current problems of the American gum naval stores industry. *North Carolina.*

Merril A. Watson, B.B.A., Boston, 1926; M.B.A., Harvard, 1928. The history and economics of the cattlehide leather industry. 1942. *New York.*

Theses in Preparation

Evan Bond Hannay, A.B., Washington, 1936; A.M., Stanford, 1937. The rôle of the machine-tool industry in business cycles. 1943. *Princeton.*

ARTHUR HIGHMAN, B.S., Armour Institute of Technology, 1935; M.B.A., Chicago, 1939. Mobilization of the chemical industry for the national defense. 1942. *Chicago.*

WILLIAM NORRIS LEONARD, A.B., Virginia, 1936; A.M., Texas, 1938. Economics of aircraft production. 1943. *Columbia.*

COY HOYT PRICE, B.S. in Commerce, Virginia, 1938. History and economic analysis of the aluminum industry in the South. 1944. *Virginia.*

SONIA D. RISOFF, A.M., Columbia, 1937. Problems of industrial stabilization with special reference to the bituminous coal industry. 1943. *Columbia.*

MARTHA VAN HOESON TABER, A.B., Bryn Mawr, 1939; A.M., Columbia, 1941. History of the cutlery industry in the Connecticut valley, 1830-1939. 1943. Columbia.

DANIEL C. VANDERMEULEN, A.B., Hamilton, 1936. Effects of the introduction of rayon on the silk weaving industry. 1943. *Harvard.*

Transportation; Communication; Public Utilities

Degrees Conferred

CARL QUIMBY CHRISTOL, JR., PH.D., Chicago, 1941. Transit by air in international law.

ROGER COIT DIXON, Ph.D., Princeton, 1942. Freight forwarders and their position in the field of transportation.

HERSCHEL FEDERMAN JONES, Ph.D., Wisconsin, 1942. The integration of electric utilities in the United States.

HAROLD KELSO, Ph.D., Wisconsin, 1942. Inland waterway policy of the United States.

JEAN DECILLE NEAL, Ph.D., Texas, 1942. A history of interterritorial freight rate structures affecting the Southwest.

LEONARD W. THOMPSON, Ph.D., Iowa, 1942. Railway construction and abandonment in Kansas.

Theses Accepted and Completed

WILLIAM WILLETS AMOS, B.S., College of the City of New York, 1932; M.B.A., Harvard, 1934. Utility operating company financing under the holding company act, 1935-1941. 1942. *New York.*

FLOYD ALDEN BOND, A.B., Michigan, 1938; A.M., 1940. The Washtenaw Gas Company: a study in public utility regulation. 1942. *Michigan.*

HENRY H. C. CHEN, B.S., Chiao Tung, 1935; M.B.A., New York, 1939. A study of the management and operating efficiency of motor transportation. 1942. *New York.*

JOSEPH S. RANSMEIER, A.B., Oberlin, 1936. The theory of multiple-purpose enterprise in waterway development with particular reference to the TVA. 1942. *Columbia.*

Theses in Preparation

GEORGE RUDOLF ANDERSON, A.B., Northern Michigan College of Education, 1928; A.M., Michigan, 1934. Effects of rigid public utility rates in depression. 1943. *Michigan.*

WILLIAM BRAY, A.B., Oberlin, 1938; A.M., 1939. The regulatory activities of the Ohio Public Utilities Commission. 1943. *Cornell.*

JOHN MOWBRAY CRAWFORD, A.B., Reed, 1935. Railroad reorganization with special reference to problems of valuation under the Chandler act. 1942. *Cornell.*

FREDERICK M. DANNENBERG, B.S., New York, 1936; M.B.A., 1937. The economic significance of the evolution of public utility accounting. 1943. *New York.*

RAYMOND C. DEIN, B.Sc., Nebraska, 1930; M.A., 1935. The intangibles of the public utility rate base and accounting theory. 1942. *Minnesota.*

RICHARD WILLIAM DITTMER, B.A., Colgate, 1938. The public utility service company. 1943. *Yale.*

JOSEPH P. GOLDBERG, B.S.S., College of the City of New York, 1937; A.M., Columbia, 1938. Railroad rates: their basis and nature, 1830-61. 1943. *Columbia.*

ANATOLE R. GRUEHR, Massachusetts Institute of Technology, 1924; M.B.A., New York, 1932. History of the treatment of depreciation in public utility rate making. 1943. *New York.*

CLARENCE EDGAR HEFFELFINGER, A.B., Ursinus, 1920; M.S., Columbia, 1931. Transportation and development of modern China. *Columbia.*

HENRY WELDON HEWETSON, A.B., Toronto, 1924; A.M., British Columbia, 1925. The financial history of the Canadian National Railway. 1942. *Chicago.*

REGINALD VYVYAN HOBBAH, B.S., Pittsburgh, 1931. The legal and economic aspects of railroad transit privileges. 1942. *Chicago.*

EDWIN HUGHES, A.B., Williams, 1919; A.M., 1934. The Ontario hydro-electric development. 1943. *Columbia.*

ANNA HULSE, B.S., New York, 1926; A.M., 1927. Niagara-Hudson and New York State—financial, historical, and social aspects of development. 1943. *Columbia.*

JOSEPH JEMING, B.S., College of the City of New York, 1929. The reproduction cost-of-service principle of public utility rate making. 1943. *Columbia.*

WILLIAM HARRY JOUBERT, B.S., Florida, 1933; M.S., 1935. The history of the freight rate structure of the southern territory. 1943. *North Carolina.*

MARION S. LEWIS, A.B., Trinity, 1918; A.M., 1921. An evaluation of the holding company abuses alleged in the public utilities act of 1935. 1942. *Chicago.*

DANIEL MARX, JR., A.B., Dartmouth, 1929. United States Maritime Commission, 1936-40. 1942. *California.*

WILLIAM PARDRIDGE. The development of commercial aviation in Latin America. 1942. *Chicago.*

EDWARD J. PETERSON, B.B.A., Minnesota, 1938; M.A., 1940. The flow of funds in the railway industry. 1944. *Minnesota.*

JOHN J. RELLAHAN, A.B., Wisconsin, 1923; A.M., 1927. Economic and legal problems in the coördination of petroleum pipe line transportation. 1943. *New York.*

W. C. RIBBLE, B.A., Hardin Simmons, 1927; M.A., Texas, 1931. Discriminatory freight rates in the southwest territory. 1943. *Texas.*

FLOYD R. SIMPSON, B.A., Minnesota, 1933; M.A., 1938. Monopoly and competition in the development of rates and service in the telephone industry. 1943. *Minnesota.*

MRS. IRENE M. SPRY, B.A., Cambridge, 1928; M.A., Bryn Mawr, 1929. The development of electrical power in Canada. *Toronto.*

EDWIN R. THIELE, A.B., Emmanuel Missionary, 1918; A.M., Chicago, 1937. Land transportation in ancient Mesopotamia. 1942. *Chicago.*

Agriculture; Forestry; Fisheries

Degrees Conferred

FRANK VICTOR BECK, Ph.D., Wisconsin, 1942. An economic analysis of the grass seed industry.

ROBERT HENRY ENGLE, Ph.D., Chicago, 1941. The trends of agriculture in the Chicago region.

WILLIAM MICHAEL GILMARTIN, Ph.D., California, 1942. Truck farming in the United States: a study of the industrialization of agriculture.

ROBERT EDWARD GRAHAM, JR., Ph.D., Virginia, 1941. Improving low incomes on tobacco farms, Caswell County, North Carolina.

CHARLES M. HARDIN, Ph.D., Harvard, 1941. Soil conservation service, with special reference to soil conservation districts.

DAVID L. MACFARLANE, Ph.D., Minnesota, 1942. A study of selected problems in sampling for crop and livestock estimating.

JOHN FREMONT MELBY, Ph.D., Chicago, 1941. Rubber river: being an account of the rise and collapse of the Amazon boom.

DOUGLAS GRAY MILEY, Ph.D., Virginia, 1941. An evaluation of farm management research in the South.

LEONARD FRED MILLER, Ph.D., Wisconsin, 1942. Dairying as an economic enterprise in West Virginia.

PAUL P. WALLRABENSTEIN, Ph.D., Ohio State, 1941. The accountancy of district and county estimates of yield per acre in Ohio, 1929-1934.

LAWRENCE W. WITT, Ph.D., Iowa State, 1941. Farm organization and management practices on low income Iowa farms.

Theses Accepted and Completed

AMANDO M. DALISAY, S.B., Philippines, 1937; A.M., Harvard, 1942. Supervised credit for low-income farm groups in the United States. *Harvard.*

VERNON CLIFFORD FOWKE, B.A., Saskatchewan; M.A., 1929. Governmental aid to Canadian agriculture: an historical introduction. 1942. *Washington.*

RALPH C. LIMBER, A.B., Allegheny, 1922; A.M., Wisconsin, 1923. Economic and technological change in American agriculture in relation to crop land requirements. 1942. *New York.*

Theses in Preparation

NORRIS J. ANDERSON, M.A., Colorado, 1931. Land classification as an aid to assessment. 1944. *Minnesota.*

WILLIAM DERRICK BARNS, A.B., Pennsylvania State, 1939; M.A., 1940. History of West Virginia agriculture. 1943. *West Virginia.*

STEWART BELL, JR., B.A., Hampton-Sydney, 1931; M.A., Virginia, 1940. Industrial-farm relationships in Henry County, Virginia. 1943. *Virginia.*

H. WAYNE BITTING, B.S., Illinois, 1933; M.S., Iowa State, 1937. The livestock market structure and its relation to price. 1943. *Minnesota.*

FRANK BUCKLEY, B.S., Agricultural and Mechanical College of Texas, 1928; M.S., Iowa State, 1933. A study of the land use of the San Jacinto watershed of Texas. 1943. *Agricultural and Mechanical College of Texas.*

EUGENIO CASTILLO. The banana industry. 1943. *Johns Hopkins.*

WALTER P. COTTON, B.S.A., Tennessee, 1932; M.S., 1933. A study of subsidies to agriculture provided by governmental credit agencies. 1943. *Minnesota.*

GRADY BLUHM CROWE, B.S., Georgia, 1939. An economic study of land use in Pulaski County, Virginia. 1943. *Virginia.*

JOHN H. DAVIS, B.S., Iowa State, 1928; M.A., Minnesota, 1935. An analysis of the policies of insurance companies in the management and resale of farms in Iowa since 1920. 1943. *Minnesota.*

GERALD ENGLEMAN, B.S., Iowa State, 1937. Problems involved in the sale of slaughter livestock on the basis of carcass weight and grade. 1943. *Minnesota.*

ABRAM W. EPP, B.S., Nebraska, 1933; M.A., 1937. An economic study of the place of forage production in the southeast grain and livestock area of Nebraska. 1943. *Minnesota.*

E. BLAND FAIRCLOTH, B.S., Virginia, 1939; A.M., Chicago, 1939. A history of the stockyards of Chicago. 1942. *Chicago.*

WILLIAM H. FISHER, B.S. in Chemistry, Richmond, 1934. The economics of bright-leaf tobacco. 1944. *Virginia.*

JACOB BARNARD GIBBS, B.S., Agr., Missouri, 1924; A.M., Columbia, 1930. Tobacco production and consumption in Asia. 1943. *Columbia.*

PERCY LOVE GUYTON, B.S., Mississippi State, 1927; M.B.A., Northwestern, 1932. Federal aid to American agriculture. 1943. *Duke.*

HAROLD GRAHAM HALCROW, B.S., North Dakota Agricultural, 1937; M.S., Montana State, 1938. The demand for beef in the United States. 1942. *Chicago.*

WILLIAM KLING, B.S., College of the City of New York, 1937; M.S., Massachusetts State, 1938. Some factors affecting northeastern tomato prices. 1943. *Clark.*

HAROLD C. LARSON, S.B., South Dakota State, 1929; S.M., Kansas State, 1930. A critique of farm credit policies. 1943. *Wisconsin.*

FRANK MILLER, M.A., Nebraska, 1937. Analysis of the use of and experience with agricultural credit in representative Nebraska counties. 1944. *Minnesota.*

TRUMAN NODLAND, B.S., Minnesota, 1934. A study of management factors affecting variations in returns from livestock in southeastern Minnesota. 1942. *Minnesota.*

ALVAN D. ODERKIRK, B.S., North Dakota State, 1926; M.S., Iowa State, 1928. A study of frozen and dried eggs as a market outlet for midwest poultry producers. 1944. *Minnesota.*

OTIS T. OSGOOD, B.A., Arkansas, 1931; M.S., Minnesota, 1938. Farm organization for upland areas in the eastern Ozarks. 1942. *Minnesota.*

CLARENCE EDWARD PHILBROOK, A.B., Chicago, 1936. The economics of conservation of natural resources. 1942. *Chicago.*

ROY ESTES PROCTOR, B.S., Kentucky, 1927; M.S., 1930. Factors affecting changes in farm organization in a general livestock area in Kentucky. 1943. *Minnesota.*

PHILIP MARTIN RAUP, A.B., Kansas, 1939; A.M., Wisconsin, 1942. Public land management in the United States. 1943. *Wisconsin.*

CHARLES FELDER REYNOLDS, JR., B.S., Mississippi State, 1939; M.S., Virginia, 1942. Changes in the agricultural economy of the Yazoo-Mississippi delta in the past twenty years. 1944. *Virginia.*

JOHN H. SITTERLEY, B.S., Ohio State, 1928; M.S., 1933. Adjustments in farming in marginal land areas in Ohio. 1943. *Ohio State.*

J. LLOYD SPAULDING, B.S., Iowa State, 1936; Ph.M., Wisconsin, 1938. Inheritance as a function of the agricultural ladder. 1944. *Minnesota.*

JOHN FRANCIS TIMMONS, S.B., Missouri, 1937; A.M., Missouri, 1938. The inheritance of agricultural land. 1943. *Wisconsin.*

HADLEY VAN VLIET, B.S.A., Saskatchewan, 1934; S.M., 1936. An analysis of agricultural land tenure in Saskatchewan. 1943. *Wisconsin.*

JOHN W. WHITE, B.S., Arkansas, 1935; M.S., Minnesota, 1939. Economic changes in cotton production from 1929 to 1939, with particular reference to the Pine Bluff area in Arkansas. 1943. *Minnesota.*

WILLIAM TATE WHITMAN, A.B., Duke, 1929; A.M., 1933. The potential volume of employment on forest industries of the Southeast under conditions of optimum utilization. 1943. *Duke.*

RAMEY C. WHITNEY, B.S., Nebraska, 1931; M.A., 1936. An economic study of possible improvements in farming on the dry land plains of Colorado. 1943. *Minnesota.*

SHU-CHIA YANG, Central Political Institute (Nanking), 1933; M.S., Minnesota, 1939. A study of a satisfactory farm credit system for China. 1942. *Minnesota.*

Economic Geography; Regional Planning; Urban Land; Housing

Degrees Conferred

WILLIAM D. BRYANT, Ph.D., New York, 1941. A city planning objective.

PAUL MICHAEL GREGORY, Ph.D., Clark, 1942. Strategic factors affecting land utilization in Worcester, Massachusetts, 1900-1940; a study in urban economics.

EARL SHEPARD JOHNSON, Ph.D., Chicago, 1941. The natural history of the central business district with particular reference to Chicago.

C. ADDISON RICKMAN, Ph.D., Iowa, 1942. Economic implications and repercussions of the development of Western Hemisphere sources of strategic raw materials.

MARY CHRISTINE SCHAUFFLER, Ph.D., Chicago, 1941. The suburbs of Cleveland: a field study of the metropolitan district outside the administrative area of the city.

GEORGE CLINE SMITH, JR., Ph.D., Washington University, 1942. Industrial decentralization: theory and measurement.

PAUL EMMETT SWEENEY, Ph.D., Buffalo, 1942. Locational economics and the grain trade and flour milling industry of Buffalo.

ROY WENZLICK, Ph.D., St. Louis, 1942. Urban rents, their fluctuations and implications.

Theses Accepted and Completed

WILLIAM MARVIN HOAD, A.B., Michigan, 1927; A.M., 1930. Real estate prices: a study of residential real estate transfers in Lucas County, Ohio. *Michigan.*

ISABEL T. KELSAY, A.B., Tennessee, 1927; A.M., Wisconsin, 1928. Anti-rent movement in New York. *Columbia.*

SEYMOUR L. WOLFBEIN, M.A., Columbia, 1937. The New Bedford depressed area. 1942. *Columbia.*

Theses in Preparation

ELEANOR SAUER BAGLEY, A.B., Mt. Holyoke, 1936; A.M., Columbia, 1937. Federal Housing Administration. 1943. *Columbia.*

DEAN WILLIAM BLACKBURN, S.B., Arkansas, 1930; S.M., Iowa State, 1931. The economic regions of Arkansas. 1942. *Wisconsin.*

FRANK BOURGIN, A.B., Minnesota, 1930; A.M., Claremont, 1932. The history of regional planning in the United States. 1942. *Chicago.*

MILLARD CLARK FAUGHT, A.B., Columbia, 1938; M.S., 1939. The problems of a resort community: a socio-economic study of Falmouth, Massachusetts. 1942. *Columbia.*

HOWARD NAYLOR FITZHUGH, B.S., Harvard, 1930; M.B.A., 1933. Improved housing for New York City's middle-class Negro families. 1942. *Columbia.*

C. J. HYNNING, A.B., Chicago, 1934; J.D., Kent Law, 1934. Trends in state resources planning. 1942. *Chicago.*

THORNTON W. MITCHELL, A.B., Stanford, 1937; A.M., 1939. Growth of American cities as affected by railroad rate practices. 1943. *Columbia.*

ARTHUR THEODORE MOSHER, S.B., Illinois, 1932; M.S., 1941. The place of the Indo-Gangetic plain in world agriculture. 1942. *Chicago.*

DONALD W. O'CONNELL, A.B., Columbia, 1937; A.M., 1930. The scope and applicability of the theory of industrial location. 1943. *Columbia.*

KATHERINE PERRING, A.B., Grinnell, 1932; M.B.A., New York, 1940. Comparative costs and deurbanization. 1944. *New York.*

WILLIAM K. SCHMELZLE, B.S. in Econ., Juniata, 1930; M.B.A., Pennsylvania, 1931. The tax factor and the localization of industry in the Pacific Coast states. 1943. *California.*

REGINALD CHARLES STEWART SHEPPARD, A.B., Wales, 1939; M.B.A., New York, 1940. The depressed areas of South Wales. 1943. *Columbia.*

ANDREW H. TRICE, A.B., San Francisco State, 1936. Branch plant location in theory and practice with particular application to the Los Angeles industrial area. 1943. *California.*

EVERETT CARL WEITZELL, S.B., Maryland, 1934; S.M., 1935. The economics of soil conservation in West Virginia. 1943. *Wisconsin.*

Labor and Industrial Relations

Degrees Conferred

GLADYS BOONE, Ph.D., Columbia, 1942. Women's trade union leagues. (Published as study no. 489 in Columbia Studies in History, Economics and Public Law.)

DEAN ORLANDO BOWMAN, Ph.D., Michigan, 1941. Public control of labor relations: a study of the National Labor Relations Board.

CHARLES EDWARD KILLEEN, Ph.D., Wisconsin, 1942. John Siney, a pioneer in industrial unionism and industrial government.

EDWARD R. LIVERNASH, Ph.D., Harvard, 1941. An analysis of job evaluation procedures.

DAN HARRISON MATER, Ph.D., Chicago, 1941. The railroad seniority system: history, description, and evaluation.

OTIS E. MULLIKEN, Ph.D., Harvard, 1942. The Massachusetts Board of Conciliation and Arbitration.

HERBERT R. NORTHRUP, Ph.D., Harvard, 1942. Negro labor and union policies in the South. 1942. *Harvard.*

DAVID RENSHAW ROBERTS, Ph.D., Harvard, 1941. The Independent Textile Union of America.

ARTHUR MAX ROSS, Ph.D., California, 1941. Agricultural labor and social legislation.

MURRAY ROSS, Ph.D., Columbia, 1942. Stars and strikes. (Published by Columbia University Press.)

MABEL MURPHY SMYTHE, Ph.D., Wisconsin, 1942. Tipping occupations as a problem in the administration of protective labor legislation.

SAMUEL ENDERS WARREN, Ph.D., Wisconsin, 1942. The Negro in the American labor movement.

FRANCES WHITEHEAD, Ph.D., Illinois, 1942. Hours and wages of clerks in retail trade in Illinois, 1939 (outside Chicago).

RUDOLF W. WISSMANN, Ph.D., Columbia, 1942. Federal regulation of working and safety conditions in the American Merchant Marine.

JOHN ADDISON WOLFARD, Ph.D., Wisconsin, 1942. Stabilization of employment and earnings.

JAMES EARL WOOD, Ph.D., California, 1941. History of labor in the broad-silk industry of Paterson, New Jersey, 1872-1940.

JAMES S. YOUTSLER, Ph.D., Iowa, 1942. Labor in wartime with reference to the United States.

Theses Accepted and Completed

REV. VINCENT IGNATIUS BREEN, A.B., St. Patrick's Seminary, 1932. The United States Conciliation Service. *Catholic.* (Published by Catholic University of America Press.)

KEITH WHITAKER JOHNSON, A.B., Kansas, 1934; A.M., Duke, 1937. Racial division of labor in the United States. 1942. *Duke.*

RICHARD ALAN LIEBES, B.S., California, 1934; M.A., Hawaii, 1938. Longshore labor relations on the Pacific Coast, 1934-42. 1942. *California.*

JACOB LOFT, B.S., College of the City of New York, 1937; A.M., Columbia, 1938. Twentieth century printing labor. 1942. *Columbia.*

JOHN LOMBARDI, B.S. in Soc. Sc., College of the City of New York, 1919; A.M., Columbia, 1935. Labor's voice in the cabinet: a history of the Department of Labor from its origin in 1921. 1942. *Columbia.*

PHILIP C. NEWMAN, A.B., Columbia, 1938; A.M., 1940. The labor legislation of New Jersey. *Columbia.*

REV. JEROME LEO TONER, O.S.B., A.B., Washington, 1931; A.M., Catholic, 1935. The closed shop in American labor movement. *Catholic.* (Published by Catholic University of America Press.)

ALBERT WESTEFELD, A.B., Columbia, 1935. Getting started: urban youth in the labor market. 1942. *Columbia.*

Theses in Preparation

DANIEL J. AHEARN, A.B., Fordham, 1930; LL.B., 1933; J.S.D., New York, 1934. The wages of farm laborers and factory laborers: 1914-1939. 1943. *Columbia.*

ROBERT J. ALEXANDER, A.B., Columbia, 1940; A.M., 1941. The labor and socialist movements in Latin America. 1943. *Columbia.*

SAMUEL BERGER, A.B., Wisconsin, 1934. The Civil War in the American labor movement. 1943. *Wisconsin.*

RUDOLF FRIEDRICH BERTRAM, A.B., Chicago, 1935; A.M., 1936. Labor relations in the Tennessee Valley Authority. 1942. *Chicago.*

CHARLES T. BRODERICK, A.B., Fordham, 1932; M.A., Fordham, 1940. A systematic approach to wage-rate determination. 1944. *Fordham.*

GERHARD BRY, Faculty of Law, Berlin and Heidelberg. Wages in Germany. 1943. *Columbia.*

HENRY THEODORE BUECHEL, A.B., Washington State, 1929; A.M., 1937. The Australian way in industrial relations. 1943. *Wisconsin.*

EVERETT JOHNSON BURTT, JR., A.B., Berea, 1935; A.M., Duke, 1937. Collective bargaining among the paper and pulp workers in Maine. 1942. *Duke.*

RAYMOND R. COLTON, B.S., College of the City of New York, 1931; M.A., Columbia, 1932. Management and the National Labor Relations act. 1943. *Columbia.*

REV. BERNARD CORNELIUS CRONIN, A.B., St. Patrick's Semnary, 1936. Peter C. Yorke and the labor movement in San Francisco, 1900-1910. 1943. *Catholic.*

LUCIEN SIMINGTON CURTIS, A.B., Howard, 1916; A.B., Harvard, 1919; A.M., Columbia, 1925. A critical examination of criteria for determining the salaries of teachers. 1942. *Chicago.*

FRANCIS STEPHEN DOODY, A.B., Tufts, 1938; A.M., Harvard, 1940. Labor relations in the paper industry in Massachusetts, Connecticut, and New Hampshire. 1943. *Harvard.*

JAMES STEMBLE DUESENBERRY, A.B., Michigan, 1939; A.M., 1941. Wages in the automobile industry, 1944. *Michigan.*

GERALD JOHN FISCHER, A.B., Rutgers, 1939. A study of the cyclical behavior of labor productivity and unit labor cost in selected American industries. 1943. *Princeton.*

ELBERT COURTS FLORA, A.B., North Dakota State Teachers, 1932; M.B.A., Chicago, 1940. Recent developments toward a more effective employment market. 1942. *Chicago.*

ROLAND GIBSON, A.B., Dartmouth, 1935. A comparison of cotton textile wages in Great Britain and the United States, 1860-1938. 1943. *Columbia.*

HILDA KESSLER GILBERT, A.B., California, 1936; A.M., 1938. The Department of Labor in the New Deal period. 1942. *Wisconsin.*

ABRAHAM LOUIS GITLOW, A.B., Pennsylvania, 1939; A.M., Columbia, 1940. Labor relations in the power laundry industry. 1943. *Columbia.*

JOSEPH GLATT, Licencie, Brussels, 1934 and 1937. The labor situation in Palestine. 1943. *Columbia.*

SONIA STEINMAN GOLD, A.B., Hunter, 1938. The process of readjustment after World War I, with special emphasis on shifts in the labor market. 1943. *Columbia.*

W. GRIFFITHS, A.B., Worcester, 1928; B.D., Union Theological, 1931; A.M., Wisconsin, 1939. The relation of the American churches to organized labor, 1877-96. 1942. *Chicago.*

JONATHAN GROSSMAN, B.S.S., College of the City of New York, 1936; A.M., Columbia, 1937. Sylvis and the labor market. 1943. *Columbia.*

EDITHA HADCOCK, A.B., Mt. Holyoke, 1927; A.M., Brown, 1931. Labor problems in the textile industry of Rhode Island. 1942. *Brown.*

LANGSTON THACKER HAWLEY, B.S., Alabama, 1932; M.S., 1933. The theory and practice of wage standardization. 1943. *North Carolina.*

JAMES CHRISTIAN HILL, A.B., Swarthmore, 1935. Emergence of an agricultural labor problem with special reference to the cotton labor situation. 1943. *Columbia.*

RANDALL WESTON HINSHAW, A.B., Occidental, 1937; A.M., 1939. Wages and employment. 1943. *Princeton.*

REV. CHARLES EDWARD HOGAN, A.B., St. Mary's, 1930. Collective bargaining in steel. 1943. *Catholic.*

E. JAY HOWENSTINE, A.B., Miami, 1936; A.M., Ohio State, 1938. The economics of demobilization following World War I. 1942. *Ohio State.*

HOWARD L. HURWITZ, A.B., Brooklyn, 1936; A.M., Columbia, 1937. Theodore Roosevelt and labor. 1943. *Columbia.*

STUART MARSHALL JAMIESON, A.B., British Columbia, 1932; M.A., McGill, 1938. History of agricultural labor organization in California. 1942. *California.*

BARBARA ANNA JARZEMBOWSKI, A.M., Columbia, 1941. Labor problems in the Republic of Poland. 1943. *Columbia.*

GERALD P. JOHNSON, B.A., College of the City of New York, 1938. The Negro woman in industry. 1942. *New School for Social Research.*

HOWARD STANLEY KALTENBORN, A.B., Nebraska, 1937; A.M., 1938. Mediation in labor disputes. 1942. *Wisconsin.*

MATTHEW ARNOLD KELLY, A.B., Amherst, 1936; A.M., Princeton, 1940. The public regulation of the hours of work of laborers and mechanics in the employ of the federal government. 1943. *Princeton.*

VAN DUSEN KENNEDY, A.B., Swarthmore, 1935. Some aspects of union participation in wage incentive methods. 1943. *Columbia.*

JOSEPH A. KERSHAW, A.B., Princeton, 1935; A.M., 1938. Settlement of American railroad disputes since 1926. 1943. *Columbia.*

CHARLES CLINTON KILLINGSWORTH, A.B., Southwest Missouri State Teachers, 1938; A.M., Oklahoma Agricultural and Mechanical, 1939. State labor relations legislation. 1943. *Wisconsin.*

MARY KLEMM, A.B., Oregon, 1930; A.M., Wisconsin, 1940. Company and independent unionism. 1943. *Wisconsin.*

HERBERT JAY LAHNE, B.B.A., College of the City of New York, 1936; M.A., Columbia, 1937. Labor in the cotton mill. 1942. *Columbia.*

LESTER HERMAN LEISER, Ph.B., Chicago, 1928; M.A., Columbia, 1932. Teachers' wages and standards of living in the United States. 1943. *Columbia.*

FRANK ANTHONY MANCINA, A.B., Chicago, 1936; M.B.A., 1938. The labor philosophy of the Catholic Church. 1942. *Chicago.*

JESSE MARKHAM, A.B., Richmond, 1941. North-South wage differentials in manufacturing industries. 1944. *Johns Hopkins.*

MAURICE P. MOFFATT, B.S., Pennsylvania Teachers, 1934; A.M., Pennsylvania State, 1935. Collective bargaining in the northern anthracite field of Pennsylvania. 1943. *Columbia.*

REV. JOSEPH DAVID MUNIER, A.B., California, 1931. Occupational groups in American practice. 1943. *Catholic.*

LAWRENCE PALMINTERI, A.B., New York, 1924; A.M., 1925. The organizability of agricultural labor in the United States. 1943. *Columbia.*

Woodrow Wilson Pate, A.B., Henderson Brown, 1936; A.M., Louisiana State, 1938. Labor and social insurance in the South. 1943. *North Carolina.*

Kurt Petschek, D.J., Vienna, 1936; A.M., Harvard, 1940. The economics of industry-wide collective bargaining. *Harvard.*

Judd Polk, A.B., Michigan, 1935; LL.B., 1935. Public control of wages. 1944. *Michigan.*

Hollis Freeman Price, A.B., Amherst, 1927; A.M., Columbia, 1933. Negro factory labor in Memphis. 1944. *Columbia.*

George Stern Quick, A.B., Michigan, 1938; A.M., 1939. The historical development of labor in Sao Paulo, 1888-1930. 1943. *Michigan.*

Arthur Hallam Reede, A.B., Pennsylvania, 1931; A.M., 1932. Adequacy of workmen's compensation. 1942. *Columbia.*

Harold S. Roberts, B.S.S., College of the City of New York; M.A., Columbia, 1938. Labor organization and collective bargaining in the rubber industry. 1943. *Columbia.*

Charles Rovetta, Ph.B., Chicago, 1930; M.B.A., 1937. Study of hospital costs of nurses' education and value of services rendered. 1942. *Chicago.*

Mae Katzen Salzer, A.B., Brooklyn, 1934; A.M., Columbia, 1935. The hours question. 1943. *Columbia.*

Sister Mary Yolande Schulte, O.S.F., A.B., College of Saint Teresa, 1931; A.M., Catholic, 1940. Wage theories in the Fair Labor Standards act. 1943. *Catholic.*

Harry Schwartz, A.B., Columbia, 1940; A.M., 1941. Agricultural labor in the twentieth century. 1943. *Columbia.*

Joseph Shister, Lic. ès. Sciences Commerciales, Montreal, 1939; A.M., Harvard, 1941. Trade union wage policy in prosperity and depression. *Harvard.*

Myrna Siegendorf, A.B., New Jersey College for Women, 1939; A.M., Wisconsin, 1940. Women in war industries. 1943. *Wisconsin.*

Smith Simpson, B.S., Virginia, 1927; M.S., 1928; LL.B., Cornell, 1931. International movement for the limitation of hours of work undertaken by the International Labor Office. 1942. *Columbia.*

Robert Snider, A.B., Harvard, 1933; M.B.A., 1934. The management functions of labor unions—a case study in employee-employer coöperation. 1943. *Columbia.*

Ben Solomon Stephansky, A.B., Wisconsin, 1939; A.M., 1942. The interrelation of trade unionism and government. 1944. *Wisconsin.*

Marie Streuver, A.B., Brooklyn, 1935; A.M., Columbia, 1936. Labor relations in the milk distribution industry. 1943. *Columbia.*

Robert Tannenbaum, A.B., Chicago, 1937; M.B.A., 1938. A study of collective bargaining in the meat packing industry. 1942. *Chicago.*

Brother Walton Tobbe, A.B., Catholic, 1933; M.A., Fordham, 1941. Recent labor legislation in the United States and the labor encyclicals. 1944. *Fordham.*

Philip H. Trezise, A.B., Michigan, 1936; A.M., 1939. Union-management coöperation. 1944. *Michigan.*

Thomas P. Whitney, A.B., Amherst, 1937; A.M., Columbia, 1939. Russian legislation on industrial labor. 1943. *Columbia.*

Constance Williams, A.B., Vassar, 1930; M.S., Simmons, 1931. Some recent employment programs in four Massachusetts cities. 1942. *Chicago.*

John Harvey Wills, B.S., Massachusetts Institute of Technology, 1926; A.M., Princeton, 1940. Studies of the New Jersey labor market. *Princeton.*

Richard Harvey Wood, A.B., Princeton, 1930. Recent developments affecting the profit-sharing plans of the Eastman Kodak Company, the Procter and Gamble Company, and Sears, Roebuck and Company. *Princeton.*

Social Insurance; Relief; Pensions; Public Welfare

Degrees Conferred

Donald Stevenson Howard, Ph.D., Chicago, 1941. Federal work programs and relief policies, 1935-41.

Fred Ritchie, Ph.D., Princeton, 1942. An appraisal of workmen's compensation legislation in New Jersey.

Irving Swerdlow, Ph.D., Wisconsin, 1942. The National Youth Administration as an agency for social security.

Theses Accepted and Completed

Cecil Letts Dunn, B.A., Southern California, 1930; M.A., Claremont College, 1932. A history and appraisal of the California state relief administration. *Claremont.*

Louis Reed Tripp, B.A., Union, 1934. The relation of unemployment compensation to other forms of assistance to the unemployed. 1942. *Yale.*

Theses in Preparation

Julius B. Bearnson, B.S., Utah Agricultural, 1914; A.M., Stanford, 1918. An economic interpretation of certain welfare agencies. 1943. *Virginia.*

Henry Gavens, B.C.S., New York, 1931; M.C.S., 1932. Factors which influence official expenditures for the conservation of health in large cities. 1943. *New York.*

Herbert Goldhamer, A.B., Toronto, 1929; A.M., 1931. Non-profit voluntary organizations in Chicago. 1942. *Chicago.*

Beatrice Gomberg, A.B., Brooklyn; A.M., Columbia. The war and economic insecurity in Great Britain. 1943. *Columbia.*

Arthur Gwynn Griffith, A.B., North Carolina, 1921; A.M., 1923. Financing old-age annuities and assistance under social security legislation. 1943. *North Carolina.*

Clifton Ralph Jones, B.A., Virginia Union, 1935; M.A., Iowa, 1939. Social stratification in the Negro population: a study of social classes in South Boston, Virginia. 1942. *Iowa.*

Henrietta Liebman, A.B., Cornell, 1932; A.M., Columbia, 1933. Relief and changes in national income. 1943. *Columbia.*

Taulman A. Miller, B.A., Amherst, 1931; M.A., Yale, 1934. The economic effects of the operation of merit rating in Indiana. 1943. *Yale.*

George Friedrich Rohrlich, D.J., Vienna, 1937; Dip. Consular Academy of Vienna, 1938. Problems of a federal equalization and re-insurance fund in unemployment compensation. 1943. *Harvard.*

Daniel Scheinman, A.B., Wisconsin, 1933. The division of the costs of unemployment relief in Massachusetts, Illinois and Pennsylvania. 1942. *Chicago.*

James M. Silberman, A.B., Wisconsin, 1938. History of unemployment compensation in the United States. 1943. *Wisconsin.*

E. H. Spicer, A.B., Arizona, 1932; A.M., 1933. A study of the relationship between the economic life and the social organization of a group of Yaqui Indians near Pascua, Arizona, with the purpose of discerning the basis of their social integration. 1942. *Chicago.*

Wayne Harold Stackhouse, B.S., Indiana, 1930; M.B.A., Northwestern, 1937. A current measure of salary and wage income. 1943. *Northwestern.*

Leo Waltz, B.S.S., College of the City of New York, 1928; A.M., Columbia, 1932. Family allowances as a post-war measure. 1943. *Columbia.*

Consumption; Income Distribution; Coöperation

Degrees Conferred

HAROLD ALFRED FREY, Ph.D., Wisconsin, 1942. The buying habits and attitudes of Toledo consumers.

JOSEPH AARON PECHMAN, Ph.D., Wisconsin, 1942. Relation between the distributions of income by size and by type of receipt.

PAUL VINCENT SHEEHAN, Ph.D., Southern California, 1942. Consumer preferences in American capitalistic society.

CALLA VAN SYCKLE, Ph.D., Iowa State, 1941. Changes in food consumption in the United States and certain factors affecting it.

Theses Accepted and Completed

MARY MEZEPPA CRAWFORD, A.B., Wellesley, 1922; A.M., Columbia, 1930. Student spending at Indiana University: a study in consumption. *Columbia.*

HELEN POTTER, A.B., Vassar, 1933. Federal protection for the consumer. 1942. *Johns Hopkins.*

Theses in Preparation

WENDELL ADAMSON, A.B., Indiana, 1928; A.M., 1937. The management of income in small geographic areas. *Columbia.*

DONALD FREDERIC BLANKERTZ, A.B., Michigan, 1935; M.B.A., 1935. Consumer coöperatives. 1943. *Michigan.*

MARGUERITE C. BURK, B.A., Kansas, 1937; M.A., 1938. Analysis of some problems in the theory of consumption economics as related to governmental policy. 1945. *Minnesota.*

ESTHER PELTON BURNETT, A.B., Stanford, 1937; A.M., Columbia, 1940. A national policy of food distribution. 1943. *Columbia.*

ELISABETH ARMOUR CURTISS, A.B., Wellesley, 1928; A.M., Columbia, 1930. The protection of consumer interests as the ostensible basis for market-restricting legislation. 1942. *Chicago.*

JAMES E. DUGAN, B.A., Minnesota, 1936; M.A., 1938. Income and the demand for housing. 1944. *Minnesota.*

CHARLES MOORE ELKINGTON, S.B., Wisconsin, 1932; S.M., 1933. An economic analysis of some factors in determining the distribution of Iowa farm incomes. 1943. *Wisconsin.*

MAXINE ENLOW, A.B., Missouri, 1938. An appraisal of food consumption subsidies. 1943. *Radcliffe.*

WALTER DUMMER FISHER, A.B., Harvard, 1937. The demand for citrus fruits in relation to consumer income. 1942. *Chicago.*

GERTRUD BERTA GREIG, B.S., New York, 1931; A.M., Bryn Mawr, 1933. A study of consumer choice. 1943. *Columbia.*

HARLOW HALVORSON, B.S., Minnesota, 1938; M.S., 1940. Relations between national and agricultural incomes. 1943. *Minnesota.*

JOHN HOPE, II, A.B., Morehouse, 1930; A.M., Brown, 1932. Credit problems of low-income groups. 1942. *Chicago.*

SIDNEY M. LERNER, A.B., Wisconsin, 1936; A.M., 1938. Geographic distribution of income in Wisconsin. 1942. *Wisconsin.*

JOHN VINCENT MACHELL, JR., B.S., Temple, 1935; A.M., Illinois, 1938. The economics of producers' coöperation in agriculture. 1942. *Illinois.*

RICHARD L. MORSE, A.B., Wisconsin, 1938. Egg grading practices and consumer egg preferences in Iowa—a study of demand and of market standards. 1942. *Chicago.*

DONALD J. O'CONNOR, A.B., Syracuse, 1933; A.M., 1937. The consumer under the United States Food Administration. 1942. *Columbia.*

GUY HENDERSON ORCUTT, B.S., Michigan, 1939; A.M., 1940. Consumer behavior. 1945. *Michigan.*

FRANCES WELLS QUANTIUS, A.B., Wisconsin, 1937; A.M., 1938. The propensity to consume. 1942. *Wisconsin.*

HORACE HANSON WASHBURN, B.S.C., Wyoming, 1930. Coöperative credit for the consumer. 1943. *Wisconsin.*

DEAN A. WORCESTER, B.A., Nebraska, 1939; M.A., 1940. An inquiry into the motivation of consumers as determined empirically compared to that assumed in demand theory. 1943. *Minnesota.*

Population; Migration; Vital Statistics

Degrees Conferred

DAVID MOODY HARRISON, Ph.D., Duke, 1941. A survey of English population theory, 1800-1860.

HAROLD WILLIAM SAUNDERS, Ph.D., Iowa, 1942. Population pressure: a study in social equilibrium.

Theses in Preparation

WILLIAM AVENER FAUGHT, B.S., Arkansas, 1940; M.A., Virginia, 1942. Composition and recent changes of the Mississippi delta population. 1944. *Virginia.*

WILLIAM A. HANCE, A.B., Columbia, 1938; M.S., 1941. Population problems of Quebec Province. 1944. *Columbia.*

HARLAN ELLIOTT MCGREGOR, B.A., Iowa, 1934; M.A., 1935. A declining population and economic stability. 1943. *Iowa.*

DON W. PADEN, B.A., Iowa, 1934; M.A., 1935. The economic consequences of a declining rate of population growth. 1942. *Iowa.*

Unclassified Items

Degrees Conferred

LOUISE DRUSILLA WALKER, Ph.D., Chicago, 1941. The Association of Commerce: its history and policies.

Theses in Preparation

B. L. SMITH, Ph.B., Chicago, 1933. A socio-political study of the American social scientists. 1942. *Chicago.*

The American Economic Review

VOL. XXXII, NO. 3, PART 2 SUPPLEMENT SEPTEMBER, 1942

Directory
of the
American Economic Association
Edited by the Secretary

CONTENTS

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Price, in paper, $3.00

PURPOSES OF THE AMERICAN ECONOMIC ASSOCIATION

The American Economic Association is an organization composed of persons interested in the study of political economy or the economic phases of political and social questions. As may be seen by examining the list of members printed in this supplement, not only are all the universities and the most prominent colleges in the country represented in the Association by their teachers of economics and related subjects, but a large number of members come from among businessmen, journalists, lawyers, men in public life, and others interested in economic principles, or, more often, in their applications to social life. The Association has, besides, a growing representation in foreign countries.

The annual meetings, held during the Christmas holidays, are arranged as forums for the discussion of scientific questions and problems of social and economic policy. They give opportunity for contact and general understanding among teachers, students and businessmen interested in such questions. The meetings aim to counteract any tendency to particularism which geographical separation and diverse interests might otherwise foster.

The publications of the Association were begun in March, 1886. The first series of eleven volumes was completed by a general index in 1897. The second series, comprising two volumes, was published in 1897-99, and in addition thereto the Association issued during 1896-99 four volumes of *Economic Studies*. In 1900 a third series of quarterly publications was begun with the Papers and Proceedings of the Twelfth Annual Meeting, and was continued through 1910. *The Economic Bulletin*, issued quarterly and devoted to bibliography and current notes, was also published by the Association during the three years, 1908, 1909, and 1910.

In 1911 the Association began publishing the *American Economic Review*, a quarterly journal devoted to articles on economic subjects, reviews, abstracts of articles in current journals, and a classified bibliography of economic publications. During the twenty-nine years of its existence, the *Review* has made a place for itself among the scientific journals of the country.

The American Economic Association is the organ of no party, sect, or institution. It has no creed. Persons of all shades of economic opinion are found among its members, and widely different views are given a hearing in its annual meetings and through its publications.

With the exception of the editor of the *American Economic Review* and the Secretary-Treasurer, the officers of the Association receive no remuneration for their services. Its entire receipts are expended for the editing, printing, and circulation of the publications and for the annual meetings.

CHARTER AND BYLAWS OF THE AMERICAN ECONOMIC ASSOCIATION

The charter of incorporation of the American Economic Association, incorporated in the District of Columbia, February 3, 1923, provides as follows:

I. The name or title by which the society shall be known is the American Economic Association.

II. The time for which it is organized is perpetual.

III. The particular business and object of the society are as follows:

1. The encouragement of economic research, especially the historical study of the actual conditions of industrial life;

2. The issue of publications on economic subjects;

3. The encouragement of perfect freedom of economic discussion. The Association as such will take no partisan attitude, nor will it commit its members to any position on practical economic questions.

IV. The number of its trustees for the first year of its existence shall be fourteen.

The following bylaws have been adopted for the government of the Association:

I. Membership

1. Any person interested in economic inquiry may, on the nomination of a member, be enrolled in this Association.

2. There shall be six classes of members other than honorary; members paying an annual fee of $5.00; family members (two or more living at the same address, second membership without subscription to the publications of the Association) paying an annual fee of $1.00; junior members (available to graduate students for three consecutive years only) paying an annual fee of $3.00; subscribing members paying an annual fee of $10.00; contributing members paying an annual fee of $25.00 or more; and life members comprising those members who contribute $200.00 or more in a single payment. Life members shall be exempt from annual fees. Members shall have each year the privilege of designating the class of membership they choose for that year.[1]

3. Foreign economists of distinction, not exceeding twenty-five in number, may be elected honorary members of the Association.

4. Every member is entitled to receive, as they appear, all reports and publications of the Association.

II. Trustees

The trustees of this Association shall not be less than fourteen or more than fifteen in number, and the Board of Trustees shall be known as the Executive Committee. The Board of Trustees shall be composed of the persons elected as the Executive Committee at the time and place and in the manner set forth in the following bylaw providing for the election of officrs.

III. Officers[2]

1. The Association shall have the following officers who shall be elective officers: A President, two Vice-Presidents, six elected members of the Executive Committee, three representatives on the Social Science Research Council and two representatives on the American Council of Learned Societies. The terms of office of the President and Vice-Presidents shall each be one year. The terms of office of the six elected members of the Executive Committee and of the three representatives on the Social Science Research Council shall each be three years, two of the six terms of the six elected members of the Executive Committee and one of the three terms of the three representatives on the Social Science Research Council to expire each year. The terms of office of the two representatives on the American Council of Learned Societies shall each be four years, and one of

[1] As amended at the December 28, 1940, annual meeting.

[2] Amendment as adopted at the annual meeting, December 29, 1933.

these terms shall expire each second year. Each regular term of office shall coincide with a calendar year or a multiple thereof.

2. As early in each year as practicable, the President of the Association shall appoint a Nominating Committee, consisting of a past officer,[1] as chairman, and not less than five other members of the Association. The names of the Committee shall be published in the March or June issue of the *American Economic Review* with an invitation to the general membership that suggestions of nominees for the various offices be sent to the chairman of the Committee. The Nominating Committee shall be instructed to present to the Secretary of the Association on or before September 1 of each year a nominee for the presidency and two or more nominations for each elective office to be filled, the nominees being members of the Association. The candidate for president shall be selected by an electoral college consisting of the members of the Nominating and the Executive Committees. Space shall be provided on the ballot for the individual voter's alternative choice.[3]

3. Elective officers shall be chosen through elections to be held during the last three[1] months of the term of office of his predecessor. Each member shall be given the opportunity to vote by mail. The results of the election shall be certified and announced by the Secretary at the annual business meeting.

4. The Association shall have the following officers who shall be appointed by the Executive Committee: A Secretary, a Treasurer, a Managing Editor, and a Counsel. The terms of office of each of these officers shall be three calendar years. The Managing Editor shall, with the advice and consent of the Executive Committee, appoint members to an Editorial Board to assist him. The President may, at his discretion and with the advice and consent of the Executive Committee, appoint a Program Committee.

5. The Executive Committee shall consist of the President, the Vice-Presidents, the Secretary, the Treasurer, the Managing Editor, the three ex-Presidents who have last held office, and six elected members, provided that the Secretary, the Treasurer, and the Managing Editor shall not be entitled to vote in the Committee's meetings.

IV. Duties of Officers

1. The President of the Association shall preside at all meetings of the Association and of the Executive Committee, and in consultation with the Program Committee, shall prepare the programs for the annual meetings. In case of his disability, his duties shall devolve upon the Vice-Presidents in the order of their election, upon the Secretary, and upon the Treasurer.

2. The Secretary shall keep the records of the Association and perform such other duties as the Executive Committee may assign to him.

3. The Treasurer shall receive and have the custody of the funds of the Association, subject to the rules of the Executive Committee.

4. The Executive Committee shall have the control and management of the funds of the corporation. It may fill vacancies in the list of officers, and may adopt any rules or regulations for the conduct of its business not inconsistent with this constitution or with rules adopted at the annual meeting. It shall act as a committee on time and place of meetings and perform such other duties as the Association shall delegate to it. A quorum shall consist of five members.

5. The Editorial Board shall have charge of the publications of the Association. The Managing Editor shall be ex officio member and chairman of the Editorial Board.

6. The office of the corporation for legal purposes shall be at the office of the Counsel in the District of Columbia, and legal process against the corporation may be served on said Counsel.

V. Annual Meeting

The annual meeting of this corporation shall be held at such time and place as may be determined by the Executive Committee. Notice of such time and place shall be given by publication in the regular journal of the corporation, now known as the *American Economic Review,* at least ten days

[3] As amended at the December 29, 1938, and December 29, 1941, annual meetings.

prior to such meeting. The first annual meeting shall be held at Providence, Rhode Island, on the 27th of December, 1923, at nine o'clock A.M., unless otherwise ordered by the Executive Committee.

VI. Amendments

Amendments, after having been approved by a majority of the Executive Committee present at a meeting regularly called, may be adopted by a majority vote of the members present at any regular meeting of the Association or by a majority of votes cast in a mail ballot authorized by the Executive Committee.[4]

[4] As amended at the December 30, 1941, annual meeting.

EDITORIAL NOTE

The 1942 directory of the Association again appears in the form of a special-purpose "who's who" in economics. Like its precursor in 1938, it is designed primarily to enable those who are interested to learn "who is doing what and where." The usefulness of that volume and the current demands of both government and private agencies for specialized information concerning the activities and interests of economists have prompted the Executive Committee of the Association to authorize the publication of the present enlarged guide.

In addition to the usual material found in our biennial handbook, the present directory contains both temporary and permanent affiliations of our members and the nature of their activities, a classification of members according to their special fields of interest, cross references to other who's who directories, a roster of past officers and members of important committees, as well as other reference material which should prove useful. This information should enable us to mobilize more effectively the research capacities of our members in making up our annual program and in locating articles for the *American Economic Review;* and it may aid us in the larger purpose of mobilizing man power in the war effort.

Information concerning the interests and activities of 2,557 of our 3,645 (July 31) members was received—a very gratifying response.

Our purpose in collecting information concerning both temporary and permanent affiliations and activities is twofold. In the first place, war influences have been very disrupting and have moved many economists to Washington and elsewhere "for the duration"—out of teaching into administration and from research into business, and the like. We want to know where our members are and what they are now doing. In the second place, we want to know their more permanent connections; i.e., the institutions or positions they leave and to which they plan to return.

We can hardly keep up with the rapid changes taking place, but we plan to publish annual supplements to the present directory in the *Proceedings* to cover new members, and personal notes announcing changes will probably continue to appear in the *Review.*

After much preparation and experimentation of our own and in coöperation with the National Roster of Scientific and Specialized Personnel, a check list of twenty subject matter fields was adopted, and our members have been classified on this basis. The reader should refer to the editorial note on page 127 for the description and use of this classification.

Of the 2,400 members answering our 1938 questionnaire, one out of four was found to be in *Who's Who in America.* This surprising count prompted us to cross reference other directories, so that those interested may find more complete biographical sketches in *Who's Who in America,* the *Biographical Directory of American Scholars,* sponsored by the American Council of Learned Societies, *Leaders in Education,* sponsored by the American Council on Education, and the *International Who's Who* (formerly *Europa*).

The geographical distribution of our members and subscribers (with addresses) is listed by country, state, and city. A regional analysis for members and subscribers in the United States and, for selected dates, changes in all memberships and subscriptions are found in the statistical section.

Also of interest to our members is the information concerning organizations with which our Association or its members are affiliated.

The Editor takes this opportunity to include in this note the following brief description of the Association's publications.

1. *The American Economic Review*—a quarterly publication containing main articles, book reviews, bibliographical and personal notes, records of special investigations by individuals and public commissions. Occasional supplements are published on special subjects; e.g., papers relating to the TNEC appearing in the June, 1942, number. Attention may be called to the series of photographs of past presidents being run in the *Review*. A limited number of reprints in a form suitable for framing will eventually be available for sale to our members.

2. *The Proceedings* of the annual meetings of the Association (edited by the Secretary), published as a supplement to the March numbers of the *Review*—main papers, round table summaries, together with reports of the Secretary, the Treasurer, the Editor, Finance Committee, Auditor, standing and special committees, minutes of the Executive Committee and of the business meetings. The appendix contains a cumulative list of the contents of the proceedings from 1911 and the publications of the Association since 1886.

3. *The Handbook*—a biennial publication, usually in the form of a directory containing names and addresses of members together with the year from which dates their continuous membership. The first specialized "who's who" was issued in 1938. The 1905 handbook contained brief biographical sketches of members.

4. *Information Booklet*—describing the purposes, organization, and activities of the Association, designed to answer inquiries from prospective members. Sent free upon request.

James Washington Bell, *Secretary*

HONORARY MEMBERS

Note: The figures in italics indicate the year of election to honorary membership.

Albert Aftalion *1938*

C. F. Bastable *1926*

Arthur L. Bowley *1932*

Gustav Cassel *1929*

David Davidson *1938*

L. Einaudi *1926*

Bèla Földes *1927*

Eli Heckscher *1938*

Gaston Jèze *1926*

Sir Walter Thomas Layton *1932*

A. Loria *1926*

Arthur Cecil Pigou *1922*

Charles Rist *1922*

D. H. Robertson *1938*

Arthur A. C. Spiethoff *1932*

Sidney Webb (Lord Passfield) *1929*

John M. Keynes (Lord Keynes of Tilton) *1932*

ALPHABETICAL LIST OF MEMBERS

(as of July 31, 1942)

* Life Members † Contributing members § Subscribing members ‡Honorary members

A Institution or firm, rank or position, nature of activity (T for teaching, R for research, A for administration, B for business) *Temporary status is indicated by bold-faced type*
B Degrees, with dates and institutions
C Doctoral dissertation (publication date in parentheses)
D Fields of major interest (numbers refer to subject matter fields, in order of expressed preference)*
E Research projects under way (identified by descriptive title)
F Most significant publications (sample limited to three items)
G Directories cross referenced (W for *Who's Who in America*, S for *Biographical Directory of American Scholars*, I for *International Who's Who (Europa)*, and E for *Leaders in Education*)

* List of subject matter groups referred to in **D**:

1. Economic theory; general works
2. Economic history
3. Economic systems; national economics
4. Statistics; economic mathematics; accounting
5. Business cycles and fluctuations
6. Public finance; fiscal policy; taxation
7. Money and banking; short-term credit
8. International trade, finance, and economic policy
9. Business finance; insurance; investments; securities markets
10. Public control of business; public administration; national defense and war
11. Industrial organization; price and production policies; business methods
12. Marketing; domestic trade
13. Mining; manufacturing; construction
14. Transportation; communication; public utilities
15. Agriculture; forestry; fisheries
16. Economic geography; regional planning; urban land; housing
17. Labor and industrial relations
18. Social insurance; relief; pensions; public welfare
19. Consumption; income distribution; cooperation
20. Population; migration; vital statistics

For descriptive subheads under main group titles, see editorial note, page 127.

ABBOTT, Charles Cortez, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1928)

ABBOTT, Edith, Univ. of Chicago, Soc. Sci. Res. Bldg., Chicago, Ill. (1905)

ABBOTT, William Joseph, Jr., 438 S. Hanley Rd., St. Louis, Mo. (1939) **A** Washington Univ., instr. in econ. and fin., T. **B** A.B., 1926, Missouri; M.S.B.A., 1939, Ph.D., 1941, Washington Univ. **C** The evolution in the utility of banking. **D** 1, 7, 8. **E** An economic analysis of the St. Louis power-laundry industry.

ABELSON, Milton, 138 Lynhaven Dr., Alexandria, Va. (1942) **A** U. S. Dept. of Com., econ., R. **B** B.C.S., 1933, M.C.S., 1934, New York. **D** 8, 7, 4. **E** Foreign investments in the U.S. **F** Co-author, American direct investments abroad, 1940 (U. S. Dept. of Com., 1942); contributor, Foreign investments in the United States, 1937-39, and Balance of international payments of the United States (U. S. Dept. of Com., 1940).

ABELSON, Olivia Israeli (Mrs. Milton), 138 Lynhaven Dr., Alexandria, Va. (1942) **A** Social Security Bd., asst. econ., R. **B** B.A., 1933, Temple. **D** 18, 6, 17. **E** Current financing of public assistance in states; public expenditures for social security. **F** Financing public assistance in states (Social Security Bul., Dec., 1939).

ABRAHAMSON, Albert, 76 Federal St., Brunswick, Me. (1927) **A National Refugee Service, exec. dir., A;** Bowdoin Col., asso. prof., T. **B** A.B., 1926, Bowdoin; A.M., 1927, Columbia. **D** 10, 11, 16. **F** Two chapters, Price and price policies, by W. Hamilton and associates (McGraw-Hill, 1938).

ABRAMOVITZ, Moses, 6601 14th St. N.W., Washington, D.C. (1936) **A WPB, prin. econ. analyst, R. B** A.B., 1932, Harvard; Ph.D., 1939, Columbia. **C** An approach to a price theory for a changing economy (Columbia Univ. Press, 1939). **D** 5, 1, 11. **E** Cyclical fluctuations in commodity stocks. **F** "Monopolistic selling in a changing economy," Q.J.E., Feb., 1938.

ABRAMSON, Adolph Graudan, 21 E. Oakdale Ave., Glenside, Pa. (1942) **A** SKF Industries, Inc., econ., B. **B** A.B., 1929, West Virginia; A.M., 1936, Ph.D., 1941, Brown. **C** Theories and measures of competition. **D** 11, 5, 1. **F** "Cost of Production and normal supply prices," A.E.R., Sept., 1937.

ABRAMSON, A. Victor, Brookings Inst., 744 Jackson Pl., Washington, D.C. (1939)

ACHINSTEIN, Asher, 1030 Park Pl., Brooklyn, N.Y. (1922)

ACKLEY, Gardner, 2808 Lee Blvd., Arlington, Va. (1938) **A OPA, sr. bus. econ., RA;** Univ. of Michigan, instr., T. **B** A.B., 1936, Western State Teachers Col., Kalamazoo; A.M., 1937, Ph.D., 1940, Michigan. **C** Spatial price relations and imperfect competition. **D** 1, 10, 11. **E** Relationship of monopolistic influences and of price policies to industrial location. **F** "Spatial competition in a discontinuous market," Q.J.E., Feb., 1942.

ADAMS, Arthur Barto, Univ. of Oklahoma, Col. of Bus. Admin., Norman, Okla. (1923) **A** Univ. of Okla., dean, TA. **B** A.B., 1910, South Carolina; M.A., 1912, Ph.D., 1916, Columbia. **C** Marketing perishable food products (Columbia Univ. Press, 1916). **D** 5, 1, 3. **F** Analyses of business cycles (McGraw-Hill, 1936); National economic security (Univ. of Oklahoma Press, 1936); Our economic revolution (Univ. of Oklahoma Press, 1933). **G** WSIE.

ADAMS, George Plimpton, Jr., Cornell Univ., Econ. Dept., Ithaca, N.Y. (1938) **A** Cornell Univ., instr., T. **B** A.B., 1929, Harvard; Ph.D., 1940, Cali-

fornia. **C** The scope and significance of American wartime price control. **D** 1, 3, 10. **E** A comparative study of national economics. **F** Wartime price control (American Council on Public Affairs, 1942). **G** S.

ADAMS, Ira Gillispie, F. E. 263, College Station, Tex. (1942)

ADAMS, James Pickwell, Brown Univ., Providence, R.I. (1921)

ADAMS, Leonard Palmer, 96 S. Main St., Albany, N.Y. (1930)

ADAMS, Leonard W., Syracuse Univ., School of Bus. Admin., Syracuse, N.Y. (1927)

ADAMS, Quincy, 213 Elm St., Chevy Chase, Md. (1941) **A WPB, Res. and Anal. Sec., Stat. Div., chief, R. B** B.A., 1941, New York. **D** 12, 4, 16. **E** Research in supply-demand problems of strategic and critical materials. **F** Editor, Dun's Review, 1931-37; The Retail Survey (Dun and Bradstreet, Inc., 1934 and 1935); editor, The Commodity Chart Book (WPB, 1942).

ADAMS, Thomas Caldwell, 242 S. 12th East St., Salt Lake City, Utah. (1929)

ADAMSON, Raymond King, Ohio Univ., Col. of Com., Athens, O. (1934) **A** Ohio Univ., instr., T. **B** B.A., 1932, Ph.D., 1941, Wisconsin. **C** A comparison of the determinants of foreign exchange rates and their effects under free and managed foreign exchange systems. **D** 8, 1, 4. **E** Methodology and research methods of the social sciences.

ADAMSON, Wendell Mavity, 2067 Park Rd., N.W., Washington, D.C. (1941) **A WPB, sr. ind. econ., R;** Univ. of Alabama, asst. prof. of statis., Bur. of Bus. Res., statis., TR. **B** A.B., 1928, M.A., 1937, Indiana. **D** 16, 4, 19. **E** Measurement of income in small geographic areas (doctoral dissertation, Columbia); commodity production in the southeast. **F** Income in counties of Alabama, 1929 and 1935 (1939), Industrial activity in Alabama, 1913-32 (1933), Cost of administration of criminal justice in Alabama cities (1931) (Univ. of Alabama, Bur. of Bus. Res.).

ADLER, J(ohn) Hans, Spring Rock Rd., Pine Orchard, Conn. (1941) **A** Yale Univ., Inst. of Int. Studies, res. asst., instr., TR. **B** D.J., 1937, Univ. of Prague, Czech.; M.A., 1940, Yale. **D** 5, 1, 8. **E** Trade and production of South America; determinants of the volume of foreign trade in the U.S., 1920-38 (doctoral dissertation).

‡**AFTALION, Albert,** 14 Rue des Pyrenées, Toulouse, France. (1938)

AGGER, Eugene Ewald, Rutgers Univ., New Brunswick, N.J. (1902) **A** Rutgers Univ., Dept. of Econ., head, T; Commissioner of Banking and Insurance, N.J. **B** B.A., 1901, M.A., 1902, Cincinnati; Ph.D., 1907, Columbia. **C** The budget in the American Commonwealth. **D** 7, 9, 3. **F** Organized banking (Holt, 1918); Utilizing the weekly Federal Reserve Statement (Amer. Inst. of Banking, 1938); Money and banking today (Reynal and Hitchcock, 1941). **G** WSE.

AGNEW, Hugh Elmer, 100 Washington Sq. E., New York City. (1941) **A** New York Univ., Dept. of Marketing, chmn., prof., TA. **B** A.B., 1902, Michigan; M.Pd. (Hon.), 1920, Michigan State Teachers Col.; Litt.D., 1935, Huntington; LL.D., 1942, Hillsdale. **D** 12, 19, 2. **E** Retailing coal and coke in New York City. **F** Co-operative advertising by competitors (Harper, 1926); Advertising media—how to weigh and measure (Van Nostrand, 1932); Outlines of marketing (with Jenkins and Drury) (McGraw-Hill, 1942). **G** WE.

AIKIN, Ann McIntyre, New York State Col. of Home Econ., Ithaca, N.Y. (1942) **A** New York State Col. of Home Econ., instr., TR. **B** B.S., 1935, Colorado State Col. of A. and M. A.; M.A., 1938, Michigan State Col. of A. and M. A.; Ph.D., 1942, New York State Col. of Home Econ. **C** Credit bureaus from the consumer's point of view. **D** 19, 9, 6. **E** Bases for management analysis in homes.

AIKIN, Newton Jesse, 2001 Monroe St., Pullman, Wash. (1927)

AITCHISON, Beatrice, 1929 S St., N.W., Washington, D.C. (1940) **A** Interstate Commerce Com., asso. econ., R. **B** A.B., 1928, Goucher; A.M., 1931, Ph.D., 1933, Johns Hopkins (in mathematics); A.M., 1937, Oregon (in economics). **C** On the mapping of locally connected continua into simple arcs (Comptes Rendus de la Société de Sciences et des Lettres de Varsovie, 1935). **D** 14, 4, 10. **E** Class-rate history. **F** Factors affecting the demand for rail passenger travel (Interstate Commerce Com., 1941).

§**AKERMAN, Clement,** Reed Col., Portland, Ore. (1914)

AKERSTROM, Clarence Edwin, 36 Church St., Poultney, Vt. (1936) **A** Green Mountain Junior Col., Dept. of Bus. Admin., head, prof., TB. **B** B.C.S., 1915, Northeastern; B.B.A., 1916, Boston Univ. **D** 4, 1, 10.

ALDEN, Lucas Avery, 2026 Hillyer Pl., N.W., Washington, D.C. (1941) **A WPB, sr. bus, analyst, RA;** Metropolitan Life Ins. Co., res. asst., RB. **B** B.S., 1931, Ph.D., 1935, California Inst. of Tech. **C** Application of group theory to intensity relationships in complex spectra. **D** 10, 9, 11.

ALDERFER, Evan Benner, Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1934) **A** Univ. of Pennsylvania, Wharton School, asst. prof. of ind., T. **B** B.S. in Econ., 1924, Ph.D., 1935, Pennsylvania. **C** Earnings of skilled workers in a manufacturing enterprise, 1878 to 1930. **D** 13, 11, 17. **F** Economics of American industry (with H. E. Michl) (McGraw-Hill, 1942).

ALDERSON, Wroe, Curtis Pub. Co., Philadelphia, Pa. (1939)

ALEXANDER, Charles K., 510 Virginia Ter., Madison, Wis. (1940)

ALLEN, Clark Lee, 1460 Peachtree St., N.W., Apt. C-19, Atlanta, Ga. (1940)

ALLEN, Edward Douglas, Iowa State Col., 114 Engr. Hall, Ames, Iowa. (1939) **A** Iowa State Col., asst. prof., TR. **B** B.A., 1930, Grinnell; M.A., 1934, Ph.D., 1937, Minnesota. **C** An historical and analytical study of American management investment companies, 1930-36. **D** 6, 5, 9. **E** Shifts in the Iowa public economy, 1930-40. **F** Analysis of highway costs and highway taxation (Iowa State Col., 1941); Paying for defense (with A. G. Hart) (Blakiston, 1941). **G** S.

ALLEN, Edward Jones, Univ. of Denver, Col. of Arts and Sci., Denver, Colo. (1922) **A** Univ. of Denver, Col. of Arts and Sci., dean, prof. of econ., A. **B** A.B., 1921, Colorado Col.; A.M., 1923, Ph.D., 1936, Columbia. **C** The second united order among the Mormons (Columbia Univ. Press, 1936). **D** 3, 17, 18. **G** WSE.

ALLEN, Harland Hill, 10 S. La Salle St., Chicago, Ill. (1928) **A** Harland Allen Associates. **B** A.B., 1917, A.M., 1918, Colorado State Teachers Col. **D** 9, 10, 3. **E** Outlook for capitalism. **F** Whither interest rates (Harper, 1940); Economic letter (published weekly by Harland Allen Associates, 11th year). **G** W.

ALLEN, Harry Kenneth, Univ. of Illinois, 205 Commerce, Urbana, Ill. (1936) **A** Univ. of Illinois, asso. prof. of econ., dir., Bur. of Econ. and Bus. Res., TRA. **B** B.S., 1920, M.S., 1932, Ph.D., 1936, Illinois **C** Efficiency and economy in local government with particular reference to Illinois. **D** 6, 8, 10. **E** Social and economic implications of the revenue provisions of the Illinois constitution. **F** Principles of public finance (with M. H. Hunter) (Harper, 1940); Costs and services of local government in selected Illinois counties (1936), Control of expenditures in the local governmental units of Illinois (1940) (Univ. of Illinois, Bur. of Econ. and Bus. Res.).

ALLEN, Ruth Alice, Univ. Sta., Austin, Tex. (1928)

ALLEY, W(illiam) Edward, 320 Edgewood Ave., Grove City, Pa. (1942) **A** Grove City Col., Dept. of Bus. Admin., instr., T. **B** A.B., 1926, De Pauw; M.A., 1932, Ph.D., 1941, Illinois. **C** The nationalization of central banks, with particular reference to recent developments in Canada, England, France and the United States. **D** 7, 4, 9.

ALM, I. W., Indiana Univ., Bloomington, Ind. (1937) **A** Indiana Univ., asso. prof., T. **B** B.S., 1926, Ph.D., 1936, Minnesota. **C** Sources and uses of funds of industrial corporations, 1927-32. **D** 4, 9.

F "Combining adjusting and closing entries," Acctg. Rev., Dec., 1939.

ALSBERG, George M., 2515 K St., N.W., Washington, D.C. (1941)

ALT, Richard Melton, 338 N. George Mason Dr., Arlington, Va. (1940) **A Navy Dept., asst. liaison officer to OPA, A;** Princeton Univ., instr. in econ., T. **B** A.B., 1932, A.M., 1940, Harvard. **D** 11, 1, 12. **E** Department store price policies (doctoral dissertation). **F** "Statistical measurement of price flexibility," Q.J.E., May, 1942.

ALTMAN, Oscar Louis, Presidential Gardens, Alexandria, Va. (1930) **A U. S. Army, A.A.F., lieut., R;** Nat. Res. Plan. Bd., prin. econ., R. **B** A.B., 1929, A.M., 1930, Cornell; Ph.D., 1936, Chicago. **C** Personal property taxation in Chicago (abstract, Illinois Law Rev., 1937, 1939). **D** 6, 5, 10. **F** Saving, investment, and national income (TNEC Mono. 37, 1941); chapter, Planning for America (McGraw-Hill, 1941). **G** S.

ALTSCHUL, Eugen, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1934)

ALYEA, Paul E., 712 11th St., Tuscaloosa, Ala. (1928) **A** Univ. of Alabama, assoc. prof., T. **B** B.S., 1923, M.S., 1927, Ph.D., 1934, Illinois. **C** Theory of the gold standard. **D** 6, 9, 7. **E** Alabama's revenue system (monograph to be published in Sept., 1942). **F** Alabama's balancing budget (Bur. of Pub. Admin., University, Ala., 1942).

AMBELANG, Paul L., 2208 Q St., N.W., Washington, D.C. (1942)

AMBERG, Alfred A., 519 Ridge Rd., Kenilworth, Ill. (1940)

AMBS, Karl Frederic, La Sierra Sta., Arlington, Calif. (1942) **A** La Sierra Col., mgr., econ., TA. **B** A.B., 1928, Emmanuel Missionary Col.; M.B.A., 1936, Northwestern. **D** 1, 7, 12.

AMOS, J(ames) Ellwood, Univ. of Pittsburgh, Pittsburgh, Pa. (1928)

ANDERSEN, Arthur Edward, 120 S. La Salle St., Chicago, Ill. (1913) **A** Arthur Andersen and Co., sr. partner, B. **B** C.P.A., 1908, Illinois; B.B.A., 1917, Northwestern; LL.D., 1938, Luther, 1941, Northwestern, 1941, St. Olaf, 1941, Grinnell. **D** 4, 9, 3. **E** Various educational and business research projects through the Arthur Andersen Research and Educational Fund. **F** Complete accounting course (Northwestern Univ., 1917); A layman speaks (1941). Duties and responsibilities of the comptroller (1934) (Arthur Andersen and Co.). **G** WS.

ANDERSON, Benjamin McAlester, Univ. of California, Los Angeles, Calif. (1911) **A** Univ. of California at Los Angeles, prof. of econ., TR. **B** A.B., 1906, Missouri; A.M., 1910, Illinois; Ph.D., 1911, Columbia. **C** Social value (Houghton Mifflin, 1911). **D** 7, 1, 8. **F** Value of money (Macmillan, 1917; R. R. Smith, 1936); Chase Economic Bulletin (Chase Nat. Bank, New York City, 1920-38); The Economic Bulletin (Capitol Research Co., Los Angeles, 1939). **G** WI.

ANDERSON, Charles D., 60 5th Ave., New York City. (1941) **A** The Macmillan Co., asso. ed., B. **B** A.B., 1913, DePauw.

ANDERSON, Clay Jefferson, 2025 Fendall Ave., S.E., Washington, D.C. (1928) **A Bur. of For. and Dom. Com., econ., econ. analyst, R;** Central Missouri State Teachers Col., Dept. of Econ. and Com., head, T. **B** B.S., 1926, M.A., 1927, Missouri; Ph.D., 1941, Michigan. **C** Economic stabilization by means of public works. **D** 7, 5, 8. **E** Economic stabilization by means of public works.

ANDERSON, David Fleetwood, 247 Canterbury Rd., Westfield, N.J. (1934)

ANDERSON, Don Sherman, 2214 Chadbourne Ave., Madison, Wis. (1938) **A OPA, consultant;** Univ. of Wisconsin, Dept. of Agric. Econ., asso. prof., TR. **B** B.S., 1919, Minnesota. **D** 15, 4, 19. **E** Adjustments needed in Wisconsin agriculture with reference to war and probable postwar conditions. **F** Economic standards of government price control (TNEC Mono. 32, Part II, Chaps. 2 and 3, 1941). **G** S.

ANDERSON, George R., Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1941)

ANDERSON, Kurt A. W., 5926 Kensington Rd., Detroit, Mich. (1939) **A** Office of Gov. Reports, admin. asst. **B** B.A., 1930, Pittsburgh; M.A., 1931, Cornell. **D** 17, 7, 1.

ANDERSON, Sven Axel, Rensselaer Poly. Inst., Troy, N.Y. (1931) **A** Rensselaer Poly. Inst., asst. prof., T. **B** A.B., 1927, Upsala Col.; M.A., 1928, Clark Univ.; Ph.D., 1936, Columbia. **C** Viking enterprise (Columbia Univ. Press). **D** 2, 16, 11. **F** "Iceland's industries," Econ. Geog., 1931; "Technological and geographic trends in the pulp and paper industry," Econ. Geog., 1942.

ANDERSON, Thomas Joel, Jr., New York Univ., School of Com., Washington Sq., New York City. (1922) **A** New York Univ., asst. prof. of econ., TR. **B** B.S. in B.A., 1922, A.M., 1923, Missouri; Ph.D., 1934, New York. **C** Federal and state control of banking (Bankers Pub. Co., N.Y., 1934). **D** 10, 7, 1. **E** Studies in public economic policies of the U.S. **F** The powers of Congress over currency, banking and security distribution (Bankers Pub. Co., 1934). **G** S.

ANDRESS, Allen Eugene, Box 164, Hiram, O. (1934) **A** Hiram Col., prof. of econ., T. **B** B.A., 1925, Doane; M.A., 1929, Clark Univ.; Ph.D., 1939, Princeton. **C** Minimum-wage legislation and administration in New Jersey, 1933-38. **D** 7, 19, 17.

ANDREW, Seymour Lansing, 195 Broadway, New York City. (1918) **A** Amer. Tel. and Tel. Co., chief statis. **B** A.B., 1910, Harvard. **D** 4, 9, 5. **G** W.

ANDREWS, Benjamin Richard, Columbia Univ., Teachers Col., New York City. (1917) **A** Teachers Col., prof., T. **B** A.B., 1901, A.M., 1903, Cornell; Ph.D., 1909, Columbia. **C** Museums of education. **D** 19. **F** Economics of the household, its administration and finance (Macmillan, rev. 1935). **G** SE.

ANDREWS, John Bertram, 131 E. 23rd St., New York City. (1910) **A** Amer. Asso. for Labor Legis., secy., ed. of Rev., RA; **Brooklyn Col., lecturer, T. B** A.B., 1904, Ph.D., 1908, Wisconsin; A.M. 1905, Dartmouth. **C** Nationalism in the American labor movement (History of labor in the United States, by Commons and Associates, Vol. II). **D** 17, 18, **E** Administration of labor laws. **F** Principles of labor legislation (Harper, rev. 1937); Administrative labor legislation (Harper, 1936); Labor laws in action (Harper, 1938). **G** WSIE.

ANDREWS, William Halstead, 5661 Drexel Ave., Chicago, Ill. (1937) **A** Purdue Univ., instr., T. **B** B.S., 1933, A.M., 1937, Indiana. **D** 1, 4, 6.

ANDRON, Mortimer, 226 N. Piedmont St., Arlington, Va. (1940) **A OPA, assist. econ., A;** Univ. of Illinois, instr. **B** A.B., 1936, California at Los Angeles; M.A., 1939, Oregon, Ph.D., 1942, Illinois. **D** 1, 4, 14.

ANDRUS, J. Russell, 8718 Georgia Ave., Silver Spring, Md. (1937) **A Bur. of For. and Dom. Com., econ. res. analyst, R;** Univ. of Redlands, asso. prof. of econ., T. **B** B.A., 1925, Redlands; M.A., 1926, Ph.D., 1934, California. **C** Economics of the utopian socialists, 1800-50. **D** 8, 10, 16. **E** BEW, confidential. **F** "Three economic systems clash in Burma," Rev. of Econ. Studies, 1936; editor, Political economy of Burma (Burma Book Club, 1938); "Burma," For. Com. Weekly, 1942. **G** S.

ANGELL, James Waterhouse, Columbia Univ., Fayerweather Hall, New York City. (1924)

ANGUS, William Newton, P.O. Box 345, Bedford Hills, N.Y. (1921) **A** William Angus, Inc., pres. and treas., B. **B** A.B., 1922, Columbia Col., M.E., 1925, Columbia. **D** 13, 11, 5.

ANSON, Charles Phillips, 122 Lewis Ave., Salem, Va. (1930) **A** Roanoke Col., Dept. of Econ. and Bus. Admin., head, T. **B** A.B., 1924, Wisconsin; M.A., 1930, Ohio State; Ph.D., 1940, North Carolina. **C** A history of the labor movement in West Virginia. **D** 17, 16, 12. **F** The United Mine Workers of America in West Virginia (West Virginia Univ. Bul., Ser. 41, Oct., 1940).

ANTHONY, Donald Elliot, 118 Wilson Ave., Kent, Ohio. (1923) **A** Kent State Univ., Dept. of Bus. Admin., head, prof., TA. **B** B.A., 1922, Ph.D., 1928, Stanford; M.A., 1923, Cornell. **C** The problem of women and children in the canning industry in the Santa Clara Valley, Calif. **D** 17, 18, 19. **F** Collective bargaining in the rubber industry (Twentieth Century Fund; in press); "Individual-

ism and unemployment insurance," Amer. Labor Legis. Rev., Sept., 1931. **G** SE.

ARBUTHNOT, Charles Criswell, 2263 Demington Dr., Cleveland, Ohio. (1904) **A** Western Reserve Univ., prof. of bus. and econ., T.A. **B** B.S., 1899, LL.D., 1916, Geneva; Ph.D., 1903, Chicago. **C** The development of the industrial corporation and the function of the entrepreneur (abstract, Univ. of Chicago, Humanistic Series, VI). **D** 11, 10, 7. **F** "Factor system as related to industrial combinations," J.P.E., 1907; "A 'stabilized dollar' would produce violent changes in periods of falling prices," Q.J.E., 1920. **G** S.

ARDIZONI, Charles, Co. E, 26th Inf., Camp Blanding, Fla. (1941)

ARENDTZ, Hermann F., 210 Newbury St., Boston, Mass. (1940) **A** United Business Service, staff econ., R. editor. **B** A.B., 1907, A.M., 1912, Ph.D., 1918, Harvard. **C** The state and the individual in political theory. **D** 3, 5, 7.

ARMBRUSTER, Adolph Henry, Ohio Univ., Athens, Ohio. (1932) **A** Ohio Univ., Col. of Com., dean, prof. **B** A.B., 1918, Western Reserve; M.B.A., 1921, Harvard. **D** 9, 10, 1. **G** W.

ARMSTRONG, A. B., North Texas Agric. Col., Arlington, Tex. (1938) **A** North Texas Agric. Col., prof. of econ., T. **B** A.B., 1918, M.A., 1924, Arkansas. **D** 14, 2, 1. **E** A history of the Texas and Pacific Railway. **F** "Palliative or remedy," Tex. Weekly, 1937; "Barriers to trade," 1940, "What about inflation," 1941, Dallas News.

ARMSTRONG, Florence A., 2703 Russell Rd., Alexandria, Va. (1923) **A** Soc. Sec. Bd., social econ., R. **B** Ph.D., 1924, Iowa. **C** Iron and steel in world trade. **D** 18, 19, 12. **E** Cost of living of the aged. **G** S.

***ARMSTRONG, Henry Clay,** 1012 Palafax St., Pensacola, Fla. (1887)

ARMSTRONG, Robert Helms, 12 E. 41st St., New York City. (1934) **A** Armstrong and Armstrong, partner, B. **B** A.B., 1922, Columbia. **D** 9, 5, 16. **F** Decentralization in New York (with Homer Hoyt) (Urban Land Inst., 1942); "Price vs. value," "Capitalization," Appraisal Jour., 1940-41.

ARNDT, Ernst H. D., Office of Registrar of Banks, The Treasury, Pretoria, South Africa. (1923)

ARNDT, Karl Matthews, Univ. of Nebraska, Lincoln, Neb. (1925) **A** Univ. of Nebraska, asso. prof. of econ., T. **B** Litt.B., 1922, Notre Dame. **D** 7, 6, 3. **G** S.

ARNER, George B. Louis, 504 Aspen St., N.W., Washington, D.C. (1910) **A** U. S. Dept. of Agric., Office of For. Agric. Rela., Div. of Reg. Res., chief, RA. **B** B.L., 1904, Baldwin-Wallace; A.M., 1906, Ph.D., 1908, Columbia. **C** Consanguineous marriages in the American population. **D** 15, 8, 20. **F** Elements of socialism (with John Spargo) (Macmillan, 1912); "Land values in New York City," Q.J.E., 1922.

ARNOLD, Arthur Z., 133 W. 71st St., New York City. (1931) **A** New York Univ., asst. prof. of econ., T. **B** LL.B., 1921, A.B., 1926, George Washington; M.S., 1928, Ph.D., 1937, Columbia. **C** Banks, credit, and money in Soviet Russia (Columbia Univ. Press, 1937). **D** 1, 4, 7. **E** Black markets; index numbers in wartime.

ARNOW, Philip, 1913 N. Rhodes St., Arlington, Va. (1942) **A** U. S. Dept. of Labor, asso. econ., R. **B** B.S., 1936, M.A., 1937, New York. **D** 17, 10, 8. **E** Effect of the Fair Labor Standards Act upon business. **F** Collective bargaining in the newspaper industry (NLRB, 1938); Redcaps in railway terminals under F.L.S.A., 1938-41, Small daily newspapers under F.L.S.A., 1938-41 (U. S. Dept. of Labor, mimeo., 1942).

ARTHUR, Henry Bradford, Swift and Co., Chicago, Ill. (1940) **A** Swift and Co., econ., RAB. **B** A.B., 1926, Union Col.; M.A., 1931, Ph.D., 1935, Harvard. **C** Wholesale price work of the U. S. Bureau of Labor Statistics. **D** 11, 9, 12. **E** Farm production and price outlook work; marketing studies. **F** "Inventory profits in the business cycle," A.E.R., Mar., 1938; "What do bond yield differentials forecast?" Harvard Bus. Rev., Winter, 1938. **G** S.

ARWE, Henry C., 3 Kenworth Ave., Keene, N.H. (1941)

ASHBY, Lowell De Witt, 2120 16th St., N.W., Washington, D.C. (1941)

ASHTON, Herbert, 6409 Ridgewood Ave., Chevy Chase, Md. (1928) **A ODT, Div. of Ry. Transp., asst. to dir., RA;** Interstate Commerce Com., transp. econ., R. **B** A.B., C.E., 1913. Cornell; M.A., 1933, Ph.D., 1936, Harvard. **C** Economic analysis of element of speed in transportation. **D** 14, 4. **E** The problem of diversions; cost-finding in transportation. **F** "Railway costs and the volume of traffic." A.E.R., June, 1940; "Measurement of productivity," J.P.E., Oct., 1938; "Relation of cost to speed," Jour. of Engr. Inst., Canada, Oct., 1938.

ASOFSKY, Abraham Allen, 485 Ocean Ave., Brooklyn, N.Y. (1936) **A** Social Security Bd., mgr., A. **B** A.B., 1933, Brooklyn; M.B.A., 1936, New York. **D** 18, 10, 4.

ATKINS, David, 1055 Green St., San Francisco, Calif. (1928) **A** Atkins, Kroll and Co., consulting engr., RAB. **B** Merchant Venturers Tech. Col., Bristol, England, 1892-96. **D** 1, 3, 5. **E** Formulation of a measure of economic value; construction of a medium of exchange. **F** Economics of freedom (Duffield and Co., 1923); A dimensional, national economy (P. S. King and Son, 1942).

ATKINS, Paul Moody, 199 Inwood Ave., Upper Montclair, N.J. (1915) **A** Consulting econ., B. **B** B.A., 1914, M.A., 1915, Yale; D.U.P., 1925, Univ. of Paris. **C** L'Enseignement de la Comptabilité des Prix de Revient dans les Universités et Ecoles Supèrieures aux Etats-Unis Librarie de l'Enseignement Technique. **D** 8, 11, 9. **F** Industrial cost accounting for executives (McGraw-Hill, 1924); Rozpocet ve Vyrobe Prumyslove (Masarykovy Academie Prace, 1926); Bank bond investments and secondary reserve management (Bankers Pub. Co., 1940). **G** W.

ATKINSON, L. Jay, Univ. of Connecticut, Storrs. Conn. (1941) **A** Univ. of Connecticut, asst. prof., TR. **B** B.S.B.A., 1934, Arkansas; M.S., 1936, A. and M. Col. of Texas; grad. work, 1936-38, Iowa State Col. **D** 15, 4, 8. **E** Adjustment of specialized dairy farms to changes in the cost-price structure.

ATKINSON, Sterling Krick, Temple Univ., Philadelphia, Pa. (1930)

AUERBACH, Samuel Jerome, 651 Alabama Ave., Brooklyn, N.Y. (1939) **A** Draftsman. **D** 5, 9. **E** Book on methods of graphic presentation.

AUL, Harold Edward, c/o Calvin Bullock, 1 Wall St., New York City. (1942) **A** Calvin Bullock, vice-pres., B; Columbia Univ., lecturer, T. **B** A.B., 1918, Columbia. **D** 9, 7, 4.

AULD, George P., Hotel Brighton, 2123 California St., Washington, D.C. (1920)

AULL, George Hubert, Clemson, S.C. (1928) **A** Clemson Col., Dept. of Agric. Econ., head, prof. **B** B.S., 1919, Clemson; M.S., 1928, Virginia; Ph.D., 1937, Wisconsin. **C** Some inequalities of taxation in South Carolina (abstract, Univ. of Wisconsin Series). **D** 6, 15, 19. **E** Social and economic appraisal of land use in Edgefield County, S.C. **F** The fiscal system of South Carolina (State Plan. Bd., 1939); Rural land holdings in South Carolina (1940), Some inequalities in the assessment of farm real estate (1941) (S. C. Agric. Exp. Sta.). **G** SE.

AUSTIN, Charles Burgess, 1159 E. Foothill Blvd., Altadena, Calif. (1911)

AUSTRIAN, Janet, 1417 Eutaw Pl., Baltimore, Md. (1941)

AXE, Emerson Wirt, E. W. Axe and Co., 730 5th Ave., New York City. (1921)

AXELSON, Ivar, 2100 19th St., N.W., Washington, D.C. (1941) **A** Treas. Dept., sr. econ. **B** M.A., 1928, Oklahoma. **D** 7, 8, 5.

AYLSTOCK, Earl Jennings, 201 W. 4th St., Cincinnati, Ohio. (1939)

AYRES, Clarence Edwin, Univ. of Texas, Austin, Tex. (1932) **A** Univ. of Texas, prof., T. **B** A.B., 1912, A.M., 1914, Brown; Ph.D., 1917, Chicago. **C** The nature of the relationship between ethics and economics (Univ. of Chicago Studies

in Phil., 1918). **D** 1, 2. **E** Restatement of institutionalist theory. **F** The problem of economic order (Farrar and Rinehart, 1938); "The gospel of technology," in American philosophy today and tomorrow, Lee Furman (1935). **G** WSE.

AYRES, Edith, Palisades, Rockland Co., N.Y. (1931)

AYRES, Leonard Porter, Cleveland Trust Co., Cleveland, Ohio. (1921) **A War Dept., Services of Sup., Statis. Service, chief, brig. gen., R;** Cleveland Trust Co., exec. vice-pres., R. **B** Ph.B., 1902, A.M., 1909, Ph.D., 1910, D.C.S. (Hon.), 1923, Boston Univ.; LL.D., 1930, Rochester; Litt.D., 1938, Portia Law School. **C** A statistical analysis of the progress of school children through graded systems. **D** 4, 5, 7. **F** The war with Germany (Gov. Print. Office, 1919); Turning points in business cycles (G. and R. MacMillan, 1939). **G** WS.

AYRES, Milan Valentine, 5401 Woodlawn Ave., Chicago, Ill. (1940) **B** S.B., 1898, M.I.T. **D** 4. **E** Book on mathematics of installments.

***BABSON, Roger Ward,** Babson Park, Mass. (1910) **A** Babson's Reports, Inc., chmn., A. **B** B.S., 1898, M.I.T.; LL.D., 1927, Florida. **D** 5, 9. **E** Study of Newton's law of action and reaction. **F** Business barometers (1942 ed.). **G** WI.

BACH, George Leland, Federal Reserve Bd., Washington, D.C. (1941) **A** Bd. of Gov. of Fed. Res. System, res. econ., R. **B** A.B., 1936, Grinnell; Ph.D., 1940, Chicago. **C** Price level stabilization: some theoretical and practical considerations. **D** 7, 6, 1. **E** Survey of commercial loans at all Fed. Res. member banks. **F** "Rearmament, recovery and monetary policy," A.E.R., Mar., 1941; contributor, State-local fiscal relations in Illinois (Univ. of Chicago Press, 1941); Introduction to economic analysis and policy (with M. J. Bowman) (Prentice-Hall, 1942).

BACKMAN, Jules, 163 Ocean Ave., Brooklyn, N.Y. (1935) **A OPA, consultant, R;** New York Univ., School of Com., Accts., and Fin., T. **B** B.C.S., 1931, A.M., 1932, M.B.A., 1933, D.C.S., 1935, New York. **C** Government price fixing (Pitman, 1938). **D** 11, 10, 9. **E** British and Canadian wartime price controls and rationing; American war economy. **F** Co-editor and author, Chaps. I, II, V to IX, War economics (1942), Adventures in price fixing (1936) (Farrar and Rinehart); "Price inflexibility and changes in production," A.E.R., Sept., 1939.

BACON, Marvin A., 7615 Eastern Ave., Takoma Park, Md. (1937) **A OPA, asso. econ., A. B** A.B., 1929, Ph.D., 1941, Michigan; M.A., 1931, Ohio State. **C** The shifting of the gasoline tax and its effect on consumption—an inductive study. **D** 6, 4, 1. **E** Fiscal aspects of the social security program in Michigan. **F** Income as an index of fiscal capacity of Michigan counties (Univ. of Michigan Press, 1941); Highway finance (with R. S. Ford) (in press).

BADER, Louis, New York Univ., New York City. (1925) **A** New York Univ., assoc. prof., T. **B** B.C.S., 1914, M.C.S., 1925, M.A., 1929, Ph.D., 1932, New York. **C** Curriculum construction for sales training in the electrical industry. **D** 12, 19, 10. **F** World developments in cotton industry (New York Univ., 1925); contributor, The technique of marketing research (McGraw-Hill, 1937); "Recent price legislation and economic theory," Jour. of Market., Oct., 1938.

BADGER, Ralph Eastman, 1534 Union Guardian Bldg., Detroit, Mich. (1921) **A** Investment Counsel, Inc., pres.; Union Guardian Trust Co., sr. vice-pres. **B** B.A., 1913, M.C.S., 1914, Dartmouth; Ph.D., 1921, Yale. **C** Marketing of hardware in the United States. **D** 9, 7, 1. **F** Valuation of industrial securities (Prentice-Hall, 1925); Investment principles and practices (Prentice-Hall, 1928); Problems in investment (Prentice-Hall, 1930).

BAER, Werner, 109-15 Queens Blvd., Forest Hills, N.Y. (1938) **A BEW, econ., R; T. B** J.D., 1933, Univ. of Frankfurt. **D** 8, 3, 10.

BAER, Willis Nissley, 528 N. Florida Ave., De Land, Fla. (1937) **A** John B. Stetson Univ., prof. of econ., T. **B** A.B., 1917, Franklin and Marshall; A.M., 1929, Pennsylvania; Ph.D., 1933, Columbia. **C** The economic development of the cigar industry in the United States (privately pub.). **D** 7, 6, 14. **E** Florida citrus industry. **G** SE.

BAGLEY, Eleanor Sauer (Mrs. William C., Jr.), Lawrence Brook Manor, New Brunswick, N.J. (1937) **A** Mutual Life Ins. Co. of N.Y., Res. Div., supervisor, R. **B** B.A., 1936, Mount Holyoke; M.A., 1937, Columbia. **D** 7, 9, 1. **E** Life insurance problems.

BAGLEY, William Chandler, Jr., Lawrence Brook Manor, New Brunswick, N.J. (1936) **A War Ship. Admin., econ., R;** Rutgers Univ., instr., T. **B** B.A., 1930, Yale; Ph.D., 1942, Columbia. **C** Soil exhaustion, slavery, and the Civil War (Amer. Coun. on Pub. Affairs, 1942). **D** 1, 2, 7. **E** Meaning and significance of money; economic aspects of cultural anthropology. **F** Elements of economics (with C. R. Fay) (Macmillan, 1938).

BAGWELL, (Ida) Lucile, 16 Pomander Walk, New York City. (1940) **A** Fed. Res. Bank of N. Y., sr. statis., R. **B** A.B., 1914, A.M., 1915, Converse; grad. work, 1937-39, New York. **D** 8, 19, 1. **F** "Business income and profits," Jour. of Bus. (Univ. of Chicago), Oct., 1929.

BAHAR, Mathilde (Mrs. Bernard Topkis), 1316 New Hampshire Ave., N.W., Washington, D.C. (1942)

BAILER, Lloyd Harding, 4942 Just St., N.E., Washington, D.C. (1938) **A WPB, Labor Div., labor consultant, R;** Howard Univ., instr., T. **B** A.B., 1934, A.M., 1936, Wayne. **D** 17, 18, 10. **E** Negro labor in the automobile industry (doctoral dissertation).

BAILEY, Robert Warren, Mount Union Col., Alliance, Ohio. (1940) **A** Mount Union Col., asst. prof., T. **B** B.A., 1933, DePauw; M.A., 1935, Northwestern. **D** 9, 4, 11.

BAILEY, William Bacon, 52 W. Hill Dr., West Hartford, Conn. (1901) **A** Travelers Ins. Co., econ. **B** A.B., 1894, Ph.D., 1896, Yale. **D** 9, 20, 5. **G** S.

BAILY, Nathan A., 1930 Grand Concourse, Bronx, New York City. (1942) **A** Col. of City of New York, tutor, T. **B** B.S. in S.S., 1940, City of New York; M.A., 1941, Columbia. **D** 2, 10, 1. **E** Economists and the tariff controversy, 1836-61 (doctoral dissertation). **F** "Are the farmers playing fair?" Current Hist., Apr., 1942.

BAIRD, Frieda, 1830 R St., N.W., Apt. 62, Washington, D.C. (1926)

BAKER, Carl Oscar, Pilgrim and Channel Sts., Stockton, Calif. (1926) **A** Schneider Vocational School, prin., A. **B** B.B.A., 1921, M.A., 1927, Univ. of Washington. **D** 6, 4, 9.

BAKER, Edgar Robey, Jr., 3264 Van Hazen St., N.W., Washington, D.C. (1942) **A** U. S. Dept. of Labor, Postwar Div., jr. econ., student. **B** A.B., 1941, George Washington. **D** 8, 2, 3.

BAKER, (Mrs.) Elizabeth Faulkner, Barnard Col., Columbia Univ., New York City. (1921) **A** Barnard Col., asso. prof. of econ., TR. **B** B.L., 1914, California; A.M., 1919, Ph.D., 1925, Columbia. **C** Protective labor legislation (Columbia Univ. Press, 1925). **D** 17, 11, 9. **E** Effects of technological change upon employment. **F** Displacement of men by machines (Columbia Univ. Press, 1933); "Unemployment and technical progress in commercial printing," A.E.R., Sept., 1930; "Technological change and organized labor in commercial printing," A.E.R., Dec., 1932. **G** SE.

BAKER, George Pierce, Civil Aeronautics Bd., Room 5043, Commerce Bldg., Washington, D.C. (1928) **A Civil Aeronautics Bd., vice chmn., member, A;** Harvard Univ., assoc. prof. of transp., T. **B** A.B., 1925, A.M., 1930, Ph.D., 1934, Harvard. **C** Railroad consolidation in New England to 1900. **D** 14, 11, 10. **F** The formation of the New England railroad systems (Harvard Univ. Press, 1937). **G** W.

BAKER, Gladden W., 700 Main St., Hartford, Conn. (1919)

BAKER, Harold Bruss, Butler Univ., Indianapolis, Ind. 1936) **A Bur. of Labor Statis., Ind. state rep.;** Butler Univ., asst. prof. of econ., T. **B** A.B., 1931, Heidelberg; M.B.A., 1932, Ph.D., 1940, Northwestern. **C** Tobacco marketing co-operatives in the Miami Valley, Ohio (Amer. Co-opera-

tion, 1941). D 11. 17, 4. E Conciliation of labor disputes in Indiana; worker reaction to time and motion study.

BAKER, Oliver P., 15478 Pinehurst, Detroit, Mich. (1928) **A Automotive Coun. for War Produc., statis.;** Automobile Mfrs. Assoc., B. **B** B.A., 1924, Bates; M.A., 1937, Yale. **D** 16, 20, 3.

BAKKE, E(dward) Wight, 333 Cedar St., New Haven, Conn. (1939) **A** Yale Univ., prof. of econ., TR. **B** B.A., 1926, Northwestern; Ph.D., 1932, Yale. **C** Insurance or dole (Yale Univ. Press, 1935). **D** 17, 18, 3. **E** Factors involved in origin and development of trade unions. **F** The unemployed man (Nesbit, London, 1933); The unemployed worker (Yale Univ. Press, 1940); Citizens without work (Yale Univ. Press, 1940). **G** SE.

BAKKEN, Henry H., Univ. of Wisconsin, Col. of Agric., Madison, Wis. (1930) **A** Univ of Wisconsin, asso. prof., TR. **B** B.A., 1922, M.A., 1924, Wisconsin. **D** 12, 19, 1. **E** Milwaukee study survey; consumers' preference for tobacco; co-operative credit. **F** Economics of co-operative marketing (McGraw-Hill, 1937); Co-operation to the finish (Mimir, Madison, Wis., 1939); Cost of manufacturing and marketing evaporated milk (Mimir, mono., 1938).

BALCOM, Bayles Ross-Lewin, 1615 N. B. C. Bldg., Cleveland, Ohio. (1939) **A** Associated Industries of Cleveland, consultant on labor rela., B. **B** A.B., 1926, Stanford; M.B.A., 1928, Harvard. **D** 17, 11.

BALDERSTON, C. Canby, Univ. of Pennsylvenia, Wharton School, Philadelphia, Pa. (1935) **A** Wharton School, dean, TA. **B** B.S. in Econ., 1921, A.M., 1923, Ph.D., 1928, Pennsylvania. **C** Managerial profit sharing (Wiley, 1928). **D** 11, 17. **F** Executive guidance of industrial relations (Univ. of Pennsylvania Press, 1935); Profit sharing for wage earners (Industrial Counselors); Wage setting based on job analysis and evaluation (Industrial Counselors, 1940). **G** WS.

BALDWIN, Claude David, OPA, Rent Div., Washington, D.C. (1939) **A OPA, Rent Div., econ.,** A; Univ. of Kansas, instr., T. **B** B.S., 1937, Denver; M.S., 1938, Ph.D., 1940, Illinois. **C** Theoretical considerations of economic planning (Univ. of Illinois Press, 1942). **D** 1, 3, 6. **E** Rent control in the U.S. during the present war (doctoral dissertation). **F** "The theory of economic planning," "The objectives of economic planning," Opinion and Comment, Feb. 11 and May 13, 1941.

BALL, Jay Otis, Chrysler Bldg., 135 E. 42nd St., New York City. (1942) **A** Nat. Boot and Shoe Mfrs. Asso., pres., AB. **B** Monmouth; Chicago. **D** 10, 3, 11.

BALLAINE, Wesley C., 285 S. Virginia St., Reno, Nev. (1939) **A Bur. of Labor Statistics, Nevada rep., R;** Univ. of Oregon. asst. prof. of bus. admin., T. **B** A.B., 1927, M.B.A., 1931, Univ. of Washington; Ph.D., 1940, Chicago. **C** Development and economic consequences of the laws regulating the investments of mutual savings banks. **D** 8, 7, 12. **F** "Gold standard in countries producing primary goods." Jour. of Bus. (Univ. of Chicago), Jan., 1933; "Recent changes in Oregon retail trade." Ore. Bus. Rev. (Univ. of Oregon, Bur. of Bus. Res.), Jan., 1942.

BALLINGER, Roy Arthur, Louisiana State Univ., University, La. (1933) **A** Louisiana State Univ., asso. prof., TR. **B** B.S., 1924, M.A., 1925, Ph.D., 1931, Minnesota. **C** Agricultural taxation in Virginia. **D** 15, 12, 6. **E** Costs of operation of plantations and mills in the Louisiana sugar industry; local cotton marketing practices in Louisiana. **F** Financial results of the operation of sugar mills in Louisiana (Feb., 1940). The New Orleans market for fluid milk (Feb., 1942) (La. Agric. Exp. Sta.); The taxation system of Virginia (Va. Agric. Exp. Sta., July, 1931).

BAMBRICK, James Joseph, Jr., 152 W. 42nd St., New York City. (1941) **A All Amer. Aviation, Inc., personnel dir., B;** Labor Bur., New York City, exec. dir., R. **B** B.S., 1940, M.B.A., 1942, New York. **D** 17, 11, 4. **E** Changes in wage rates and classifications in aeronautical, automotive, and job machine shops in the U.S.; the optimum work day and work week in wartime; economic consequences of collective bargaining (doctoral dissertation). **F** Chapter, The foreman's handbook (McGraw-Hill, 1942); Clerical wage rates for fourteen cities in the Eastern section of the United States (Labor Bur., 1941); Bibliography: optimum work day and work week under war conditions (Labor Bur., mimeo., 1942).

BANCROFT, E(verett) Clair, 83 Hamilton St., Hamilton, N.Y. (1919) **A** Colgate Univ., prof. of econ., T. **B** B.A., 1914, Acadia; A.B., 1915, Ph.D., 1928, Yale. **C** Finances of the state of Connecticut, 1861-1927. **D** 7, 6, 5. **G** S.

BANCROFT, Gertrude, 761 Millbrook Lane, Haverford, Pa. (1935)

BANDLER, Wyllis, 944 Park Ave., New York City. (1941).

BANGS, Robert B., 1400 S. Barton St., Arlington, Va. (1940) **A** U. S. Dept. of Com., econ, anal., R. **B** B.A., 1935, Coe; M.A., 1937, Tufts; Ph.D., 1941, Brown. **C** Leading problems in the theory of capital, income, and employment. **D** 1, 4, 5. **E** Critical analysis of concepts used in American estimates of national income. **F** "Wage reductions and employment," J.P.E., Apr., 1942; "The changing relation of consumer income and expenditure," Apr., 1942, "Preliminary estimates of gross national product," May, 1942, Survey of Current Bus.

BARAN, Paul Alexander, OPA, Div. of Res., Washington. D.C. (1942) **A OPA, econ., R. B** Diploma in Economics, 1928, Univ. of Moscow; Diplom-Volkswirt, 1931, Univ. of Breslau; M.A., 1941, Harvard. **D** 1, 3, 6, **E** Russian and German planning systems.

BARBASH, Jack, 1415 Underwood St., N.W., Washington, D.C. (1942) **A U. S. Office of Educa., sr. tech. advisor, RA. B** B.S. 1932, New York. **D** 17, 10. **E** Attitudes and policy in American trade unions. **F** Employer attitudes and methods in industrial disputes (New York Univ., 1937); "Economics of the laundry industry," The Advance (Amal. Cloth. Workers Union of Amer.), Feb.-June, 1939.

BARKAS, Benjamin William, 5907 Kemble Ave., Philadelphia, Pa. (1923) **A Pennsylvania State Col., Res. Project on Workers Educa., head, TRA;** School Dist. of Philadelphia, instr., T. **B** B.S., 1921, A.M., 1923, Ph.D., 1925, Cornell. **C** Agrarian rationalism of the eighteenth century and the French revolution (abstract. Theses Abstracts of Cornell Univ.). **D** 17, 11, 2. **E** Content and method of workers' education; production management and organized labor. **F** "The Ways and Means Committee of the Upholstery Weavers' Union," Amer. Federa., Nov., 1927; "Workshop economics as taught in Philadelphia," Proceedings, Brookwood Labor Col., 1926; contributor to Adult education for social change (Swarthmore Seminar, 1935).

BARLOW, Wallace Dudley, 222 N. Thomas St., Arlington, Va. (1940) **A WPB, econ., R;** R. **B** B.S., 1930, M.S., 1936, Virginia Poly. Inst.; grad. work, 1937, Virginia, 1940, Harvard. **D** 13, 8, 7.

BARNARD, Chester Irving, 540 Broad St., Newark, N.J. (1934) **A USO, nat. pres., A;** N. J. Bell Tel. Co., pres., B. **B** D.S., 1936, Rutgers; LL.D., 1937, Newark. **D** 1, 3, 11. **E** Theory of capital vs. theory of enterprise. **F** The functions of the executive (Harvard Univ. Press, 1938). **G** WS.

§BARNES, Charles Maurice, Dept. of State, Washington, D.C. (1913)

BARNES, Horace Richards, 928 Virginia Ave., Lancaster, Pa. (1923) **A** Franklin and Marshall Col., prof., secy., bd. of trustees, T. **B** A.B., 1911, M.A., 1913, Pennsylvania; LL.D., 1927, Washington Col. **D** 7, 2, 9. **G** SE.

BARNES, (Mrs.) Lillian P., Kennedy-Warren Apt., 3133 Connecticut Ave., N.W., Washington, D.C. (1940) **A** Treas. Dept., Office of Secy., asso. econ. anal., R. **B** A.B., 1938, George Washington; M.A., 1942, American. **D** 9, 14, 4, **E** Pay roll deduction plans in large corporations of the U. S.; bank and insurance company holdings of U. S. Government securities and obligations guaranteed by the U. S.

BARNES, William Preston, III, 800 Drehr Ave., Baton Rouge, La. (1941)

BARNETT, Paul, Univ. of Tennessee, Knoxville, Tenn. (1938)

BARNWELL, George Winchester, Stevens Inst. of Tech., Hoboken, N.J. (1935) **A** Stevens Inst. of Tech., prof. of produc. prac., T. **B** B.S., 1909, Georgia School of Tech.; B.S., 1914, M.I.T.; M.A., 1926, Pennsylvania. **D** 11, 9, 3. **F** Encyclopedia of machine shop practice (Wise and Co., 1941).

BARR, Andrew, SEC, Chief Accountant's Office, Washington, D.C. (1928) **A Hq. 3rd Armored Div., Camp Polk, major, staff officer;** SEC, res. accountant, R. **B** B.S., 1923, M.S., 1924, Illinois; C.P.A., 1924, Illinois. **D** 4, 9, 10. **G** S.

BARR, Pelham, 501 5th Ave., New York City. (1942) **A** Counsel, B. **B** B.S., 1913, Columbia. **D** 11, 10, 17. **E** Producer-consumer relationships; competitive patterns in a small industry. **F** Reports of the economic survey of the book industry (Nat. Asso. of Book Pub., 1931-32).

BARR, Robert J., 227 Peace St., North Chattanooga, Tenn. (1942) **A Bur. of For. and Dom. Com., econ. anal.;** Marquette Univ., prof. of econ. **B** B.S., 1924, Chattanooga; M.S., 1925, Ph.D., 1935, Wisconsin. **C** The control of war inflation. **D** 10, 1, 17. **G** S.

BARRETT, Don Carlos, R.R. 7, Box 490, Indianapolis, Ind. (1895).

BARTELS, Robert D. W., 6 Grenwood Ave., Wheeling, W.Va. (1936) **A U. S. Navy, Office of Port Dir., ensign, A.;** Univ. of Washington, asst. prof., T. **B** B.S., 1935, Ph.D., 1941, Ohio State; M.B.A., 1936, Northwestern. **C** Marketing literature—development and appraisal. **D** 12, 11, 3. **E** The derivation of marketing principles.

BARTLETT, Roland Willey, Univ. of Illinois, Urbana, Ill. (1931) **A** Univ. of Illinois, asso. prof., TR. **B** B.S., 1922, M.S., 1924, Cornell; Ph.D., 1929, Pennsylvania State Col. **C** Price plans for marketing milk (in Co-operation in marketing dairy products, Thomas, Springfield, Ill., 1931). **D** 12, 15, 17. **E** Adjusting wages to changes in cost of living. **F** The price of milk (Interstate Print. Co., Danville, Ill., 1941).

***BARUCH, Bernard Mannes,** 597 Madison Ave., New York City. (1913) **B** A.B., 1889, City of New York; LL.D., Williams, Johns Hopkins, South Carolina, Citadel, Col. of Charleston, Oglethorpe; D.C.L., Union. **D** 10, 11, 13. **F** Making of economic and reparation sections of Peace Treaty (Harper, 1920); American industry in war; Taking profits out of war. **G** WI.

BASCH, Antonin, Brown Univ., Providence, R.I. (1940) **A Brown Univ., visiting prof., T;** TR. **B** D.J., 1919, Charles Univ., Prague. **D** 7, 8, 3. **E** Basic economic problems of Central and Southeastern Europe, especially with regard to the trade relation with Germany. **F** Theory of inflation (Komenski Univ. Press, 1922); Austria and its economic existence (Orlis, Prague, 1929); The new economic warfare (Columbia Univ. Press, 1941). **G** SI.

BASKA, Louis Martin, St. Benedict's Col., Atchison, Kan. (1935) **A** St. Benedict's Col., Dept. of Econ., head, T. **B** A.B., 1911, A.M., 1921, St. John's Univ., Collegeville. **D** 2, 17, 20. **E** Economic history of the Slovaks in the U. S. (doctoral dissertation, Catholic Univ.). **G** S.

BASS, Lawrence Wade, 137 Newbury St., Boston, Mass. (1930) **A** New England Ind. Res. Found., dir., R. **B** Ph.B., 1919, Ph.D., 1922, Yale. **D** 1, 13, 12. **E** Industrial survey of New England; survey of membership of Amer. Chem. Soc. in co-operation with U. S. Bur. of Labor Statis. **F** "Chemical economics," Ann. Survey of Amer. Chem., 1936; Nucleic acids (Reinhold, 1931); Statistical survey of the chemical engineering industries (Amer. Inst. of Chem. Engr., 1933). **G** W.

‡**BASTABLE, C. F.,** 52 Brighton Rd., Rathgar, Dublin, Irish Free State. (1926)

BATCHELOR, Joseph Alexander, Indiana Univ., Bloomington, Ind. (1932) **A** Indiana Univ., instr., T. **B** A.B., 1930, M.S., 1931, Indiana. **D** 2, 13, 1. **E** An economic history of the Indiana oolitic limestone industry (doctoral dissertation nearing completion). **G** S.

BAUDE, Walter A., Univ. of Cincinnati, Col. of Engr. and Com., Cincinnati, Ohio. (1941) **A** Univ. of Cincinnati, asso. prof. of com., T. **B** Ch.E., 1918, B.S.C., 1926, Cincinnati. **D** 4, 5, 7.

BAUER, John, 280 Broadway, New York City. (1910) **A** Amer. Pub. Util. Bur., dir., R, public consulting. **B** B.A., 1904, LL.D., 1935, Doane; B.A., 1906, Ph.D., 1908, Yale. **C** The economic and social conditions of the Italians in the United States. **D** 14, 4, 10. **E** Public organization of electric power; regional and state levels of electric rates. **F** Effective regulation of public utilities (Macmillan, 1925); Public utility valuation for purposes of rate control (Macmillan, 1934); The electric power industry (Harper, 1939). **G** WS.

BAUMERT, Watson A., 102 South Ave., Garden City, L.I., N.Y. (1927)

BAYSINGER, Reaves H., Box 89, Dewitt, N.Y. (1933)

BEACH, Earl Francis, McGill Univ., Montreal, Canada. (1939) **A** McGill Univ., School of Com., dir., asst. prof. of com., TA. **B** B.A., 1934, Queen's Univ., Canada; A.M., 1936, Ph.D., 1938, Harvard. **C** The measurement of real capital. **D** 1, 4, 5. **F** "A measurement of the productive capacity of wealth," Canadian Jour. of Econ. and Polit. Sci., Nov., 1941.

BEACH, W(alter) Edwards, 3415 Morrison St., N.W., Washington, D.C. (1926) **A** U. S. Dept. of Agric., Agric. Manage. Admin., Com. Exch. Br., Econ Div., in charge, R. **B** A.B., 1922, Stanford; A.M., 1926, Ph.D., 1929, Harvard. **C** British international gold movements and banking policy, 1881-1914 (Harvard Univ. Press, 1933). **D** 9, 7, 12. **G** S.

BEADLES, William T., Illinois Wesleyan Univ., Bloomington, Ill. (1931) **A** Illinois Wesleyan Univ., Div. of Social Studies, chmn., prof. of econ., TA. **B** A.B., 1923, Illinois Wesleyan; M.A., 1924, Illinois. **D** 9, 19, 6. **E** Periodic health examination—a life conservation activity of life insurance companies. **G** S.

BEAL, Thomas Andrew, Univ. of Utah, Salt Lake City, Utah. (1909) **A** Univ. of Utah, dean emeritus. **B** A.B., 1906, Utah; M.A., 1910, M.S. in Bus., 1919, Columbia; grad. work, 1926, Columbia, 1925, Heidelberg, 1926, Berlin. **D** 6, 7, 1. **F** "General property tax in Utah," "The income tax in Utah," Utah Educa. Rev.; "Utah's tax system," in Tax systems of the world. **G** WE.

BEALES, Le Verne, 4124 5th St., N.W., Washington, D.C. (1925)

BEATTY, Willard C., Brown Univ., Dept of Econ., Providence, R.I. (1923)

BECKER, Nathan Maurice, 2512 Lee Blvd., Arlington, Va. (1936) **A BEW, British Empire Sec., econ., R;** TR. **B** A.B., 1935, A.M., 1936, Ph.D., 1938, Cincinnati. **C** Problems of monetary reform in China. **D** 1, 5, 8. **F** "The anti-Japanese boycott in the United States," Far Eastern Survey, Mar. 1, 1939; "The possible effects of a boycott of Japanese goods," Amerasia, Dec., 1937; "Why Japan does not collapse," China Today, Jan., 1941.

BECKETT, Grace, Univ. of Illinois, Dept. of Econ., Urbana, Ill. (1936) **A** Univ. of Illinois, instr., T. **B** A.B., 1934, A.M., 1935, Oberlin; Ph.D., 1939, Ohio State. **C** Reciprocal trade agreements program (Columbia Univ. Press, 1941). **D** 8, 2, 7. **E** Commerce on the Great Lakes. **F** "Reclassification in the reciprocal trade agreements," J.P.E., Apr., 1940; "Effect of reciprocal trade agreements program," Q.J.E., Nov., 1940; "Reciprocal trade agreements program," Jour. of Market., Jan., 1941.

BECKHART, Benjamin Haggott, Columbia Univ., School of Bus., New York City. (1922) **A** Columbia Univ., School of Bus. prof. of banking; Chase Nat. Bank, dir. of res. **B** A.B., 1919, Princeton; M.A., 1920, Ph.D., 1924, Columbia. **C** The discount policy of the Federal Reserve System (Holt, 1925). **D** 7, 9, 6. **F** The New York money market (Columbia Univ. Press, 1932-33); Foreign banking systems (Holt, 1929). **G** S.

BECKMAN, Theodore N., Ohio State Univ., Col. of Com., Columbus, Ohio. (1921) **A WPB, Div. of Civ. Sup., chief consultant,** R; Ohio State Univ., prof. of market., T. **B** B.S. in Bus. Admin., 1920, M.A., 1922, Ph.D., 1924, Ohio State. **C** Credits

and collections in theory and practice (McGraw-Hill, 4th ed, 1939). **D** 7, 12, 11. **E** Impact of war on wholesaling and policies needed to meet it. **F** Principles of marketing (with H. H. Maynard and W. C. Weidler) (Ronald Press, 3rd ed., 1939); Wholesaling principles and practice (with N. H. Engle) (Ronald Press, 1937); Survey of reports of credit and capital difficulties (U. S. Gov. Print. Office, 1935). **G** WS.

BECKNER, Earl Rucker, 3319 Legation St., N.W., Washington, D.C. (1924) **A WPB, Office of Progress Reports, prin. ind. econ., R;** Farm Sec. Admin., Labor Div., asst. dir., RA. **B** A.B., 1923, Butler; A.M., 1924, Ph.D., 1927, Chicago. **C** A history of labor legislation in Illinois (Univ. of Chicago Press, 1929). **D** 17, 3, 19. **F** "The trade union educational league and the American labor movement," J.P.E., Aug., 1925; Farm accidents in region III, Farm Security Administration (with W. C. Crozer) (Farm Sec. Admin., 1940). **G** S.

BEDELL, Clyde Orvis, The Fair, Chicago, Ill. (1942) **A** The Fair, dir. of sales promotion, B; Northwestern Univ., instr., T. **D** 12, 19, 11. **E** Further isolation of factors that make advertising sell. **F** The seven keys to retail profits (1931), How to write advertising that sells (1940) (McGraw-Hill).

BEEDE, Kenneth Charles, 4 Cleave Dr., Falls Church, Va. (1939) **A** Nat. Hous. Agency, hous. econ., R. **B** A.B., 1927, George Washington; M.B.A., 1929, Harvard. **D** 16, 5, 19. **E** Local housing policies and programs (doctoral dissertation). **F** "What is ahead for housing?" Insured Mortgage Portfolio (FHA), 3rd Qr., 1940; "Residential construction during 1941," Insured Mortgage Portfolio, 1st Qr., 1942.

BEHLING, Burton Neubert, 4447 Davenport St., N.W., Washington, D.C. (1934) **A Bd. of Investigation and Res., dir. of res., RA;** RA. **B** B.A., 1928, Lawrence; M.A., 1929, Ph.D., 1931, Illinois. **C** Competition and monopoly in public utility industries (Univ. of Illinois Press, 1938). **D** 14, 10, 1. **E** Public aids to transportation.

BEHLOW, Robert R., 1113 Lexington Ave., New York City. (1942) **A** U. S. Dept. of Labor, Bur. of Labor Statis., sr. econ., R.A. **B** B.A., 1929, Southern California. **D** 3, 5, 10.

BEKKER, Konrad, 222 Waller Ave., Lexington, Ky. (1939) **A** Univ. of Kentucky, instr., T. **B** D.J., 1935., Ph.D., 1936, Univ. of Basle. **C** Marx's philosophische entwicklung (Oprecht, Zurich, 1940). **D** 7, 5, 1. **E** Cyclical fluctuations of profits.

BELCHER, Alice Emeline, Milwaukee-Downer Col., Milwaukee, Wis. (1910) **A** Milwaukee-Downer Col., prof. **B** A.B., 1900, Mount Holyoke; A.M., 1902, Radcliffe. **D** 1, 2, 20. **G** S.

BELCHER, Donald Ray, 195 Broadway, New York City. (1921) **A U. S. Navy, Office of Procurement and Material, asst. chief, A;** Amer. Tel. and Tel. Co., asst. chief statis., A. **B** A.B., 1909, Kalamazoo; A.M., 1915, Columbia. **D** 11, 4, 9. **G** WS.

BELL, David Elliott, 1541 Key Blvd., Arlington, Va. (1941) **A Bur. of the Budget, jr. adm. anal., A. B** M.A., 1941, Harvard. **D** 17, 11, 3.

***BELL, James Christy,** Brookville, Glen Head, L.I., N.Y. (1922)

BELL, James Washington, 1745 Chicago Ave., Evanston, Ill. (1916) **A** Northwestern Univ., Dept. of Econ., head, prof. of money and banking; Madison-Crawford Nat. Bank, dir.; Amer. Econ. Asso., secy.-treas., ed. of Proceedings; TRA. **B** B.A., 1912, M.A., 1913, Univ. of Colorado; Ph.D., 1918, Harvard. **C** Taxation of railroads in New England. **D** 7, 5, 6. **E** Nature and character of recent changes in short-term financing; banking regulation and government competition with private lending; fiscal and monetary policies. **F** Guide to the study of money and banking (Chicago, 3rd ed., 1935); "Recent changes in the character of bank liabilities and the problem of bank reserves," A.E.R., Mar. Sup., 1932; "Recent literature on money and banking," Harvard Bus. Rev., Winter, 1939. **G** WSE.

BELL, John Fred, Univ. of Illinois, Commerce Bldg., Urbana, Ill. (1927)

Bell, Robert Monroe, Kimberlin Heights, Tenn. (1941)

BELL, Spurgeon, 532 20th St., N.W., Washington, D.C. (1925) **A** Nat. Res. Plan. Bd., head econ., R. **B** B.S., 1902, Texas; M.B.A., 1915, Harvard. **D** 7, 5, 4. **F** Wages, productivity, and national income (Brookings, 1940); Industrial and commercial Ohio (with Ralph Watkins) (Bur. of Bus. Res., 1928). **G** WS.

§BELLER, William Charles, 18 W. 85th St., New York City. (1937)

BELMORE, Carl Warren, 24 Elm St., Wakefield, Mass. (1936)

BELTRAN, Pedro Gerard, Belaochaga 580, Lima, Peru, So. Amer. (1938) **A Peruvian trade delegate, A;** B. **B** B.S. (Econ.), 1918, London School of Econ.

BENDER, Wesley Charles, Univ. of Notre Dame, Notre Dame, Ind. (1937) **A** Univ. of Notre Dame, asso. prof., T. **B** A.B., 1929, Cornell; M.A., 1931, Pittsburgh. **D** 2, 4, 7.

BENDINER, Irvin, 1520 Real Estate Trust Bldg., Philadelphia, Pa. (1934)

BENEDICT, Murray Reed, Univ. of California, 204 Giannini Hall, Berkeley, Calif. (1928) **A** Univ. of California, prof., TR. **B** B.S., 1916, Wisconsin; Ph.D., 1931, Harvard. **C** The incidence of transportation charges on agricultural products (summarized in Bul. 269, S. D. Agric. Exp. Sta.). **D** 15, 8, 17. **E** Agricultural wage boards in Britain; farm policy in relation to postwar international trade. **F** Brinkmann's Economics of the farm business (translation) (Univ. of California Press, 1935); The census of agriculture (S.S.R.C., 1937). **G** S.

BENGSTON, Karl Josef, Salinas Junior Col., Salinas, Calif. (1938) **A** Salinas Junior Col., instr., T. **B** B.A., 1932, Gustavus Adolphus; M.A., 1936, Iowa. **D.** 17, 16, 7.

BENNER, Claude Leon, Wilmington, Del. (1922) **A** Continental American Life Ins. Co., vice-pres., B; Univ. of Pennsylvania, Wharton School, lecturer in fin., T. **B** B.A., 1920, M.A., 1921, Michigan; Ph.D., 1925, Brookings. **C** The federal intermediate credit system (Macmillan, 1925). **D** 9, 8, 7. **F** Ten years of federal intermediate credits (with Baird) (Brookings, 1937); "Credit aspects of the agricultural depression," J.P.E.

BENNETT, Philip A., 150 N. Day St., Orange, N.J. (1936)

BENNETT, Virgil Eudell, Bennett and Co., 200 Beaver St., Beaver, Pa. (1936) **A** Bennett and Co., owner, TRAB. **B** B.S., 1938, M.A., 1939, Pittsburgh. **D** 6, 10, 2. **F** "Naval stores accounting," Jour. of Accountancy, Jan., 1922; "Taxes arising from the Agricultural Administration Act," Bus. Fin., 1934; biennial reports, Commonwealth of Pa., 1927 and 1929.

BENNETT, William Batchelder, Hillsboro, N.H. (1940) **A** U. S. Army, capt. **B** B.S., 1935, New Hampshire; M.A., 1936, Ph.D., 1941, Louisiana State. **C** The economics of the American patent system. **D** 1, 10, 11. **E** Inductive studies of methods of defeating the Axis.

BENNETT, William Whipple, Union Col., Schenectady, N.Y. (1921) **A** Union Col., prof., co-ord. of student activities, TA. **B** A.B., 1919, Doane; M.A., 1921, Ph.D., 1932, Princeton. **C** Railroad engineman brotherhoods and collective bargaining. **D** 17, 7, 1. **G** S.

BENNION, Edward Graham, 85 Prescott St., Cambridge, Mass. (1941)

BENTON, Alva Hartley, U. S. Dept. of Agric., Bur. of Agric. Econ., Washington, D.C. (1941) **A** U. S. Dept. of Agric., econ., T.A. **B** B.S., 1912, Ohio State; M.S., 1913, Pennsylvania State Col.; Ph.D., 1921, Wisconsin. **C** Short-time farm credit (memoranda for the use of the Joint Congressional Committee on Short-Time Rural Credit, Senate Doc., Dec., 1921). **D** 12, 15, 19. **F** Marketing of farm products (McGraw-Hill, 1926); buls. on marketing, finance, and tenancy, N. D. and Minn. Exp. Stas., 1916-33. **G** W.

BERGER, Anne H., 545 W. 111th St., Apt. 7BB, New York City. (1941) **A Juilliard School, inst. B**

Ph.D., 1927, Univ. Frankfurt am Main, Germany. C Collective bargaining. D 17, 18, 2.

BERGLUND, Abraham, Univ. of Virginia, Univ. Sta., Charlottesville, Va. (1906) A Univ. of Virginia, T. B B.A., 1904, Chicago; Ph.D., 1907, Columbia. C United States Steel Corporation (Columbia Univ. Ser.). D 14; 11, 1. E Scientific aspects of modern economic theory. F Ocean transportation (Longmans, Green, 1931); joint author, Tariff on iron and steel (Brookings, 1929), Labor in the industrial South (Univ. of Virginia, Inst. for Res. in Soc. Sci., 1930). G WS.

BERGSON, Abram, Univ. of Texas, Dept. of Econ., Austin, Tex. (1937) A **Nat. Res. Plan. Bd., R;** Univ. of Texas, asst. prof., T. B A.B., 1933, Johns Hopkins; M.A., 1935, Ph.D., 1940, Harvard. C Wage variation among industrial workers in the Soviet Union. D 1, 3, 10. E Revision of doctoral dissertation for publication. F "Real income, expenditure proportionality, and Frisch's new method," Rev. of Econ. Studies, 1936; "Reformulation of welfare economics," Q.J.E., 1938; "Distribution of Soviet earnings," J.P.E., 1942.

BERKOWITZ, Leonard M., 101 Ave. B, New York City. (1942) A **OPA, econ., R;** R. B A.B., 1940, Brooklyn. D 10, 11, 19.

BERMUDEZ, Jorge, Univ. of Puerto Rico, Rio Piedras, Puerto Rico. (1932)

BERNFIELD, Frederick Milton, Citadel Sta., Charleston, S.C. (1937) A The Citadel, asst. prof., T. B B.A., 1928, Pennsylvania; M.A., 1931, California. D 12, 1, 17. E Dangers of inflation. F "The control of stock exchanges," Citadel Bul., Nov., 1937.

BERNHARD, (Mrs.) Carolyn Gonyo, 2120 16th St., N.W., Washington, D.C. (1941) A **Dept. of Com., Bur. of the Census, Div. of Employ. and Inc. Statis., res. asst., R.** B A.B., 1936, Wisconsin; grad. work, Wisconsin, Syracuse. D 17, 3, 1. E Potential labor supply in the U. S.

BERNHARDT, Joshua, 6800 Brookville Rd., Chevy Chase, Md. (1920) A Dept. of Agric., Agric. Conserva. and Adjust. Admin., Sugar Agency, chief, A. B A.B., 1916, Rochester; Ph.D., 1921, Johns Hopkins. C Government control of sugar in the United States during war of 1917-18 and the transition to competitive conditions (Q.J.E., Aug. 1919, and Aug., 1920). D 4, 10, 17. E Economic problems involved in government regulation of industry. F Government control of sugar (Macmillan, 1920); reports on I.C.C. and U. S. Tariff Com. (Inst. for Gov. Res., 1921-22). G WS.

BERNHEIM, George B., 300 Observer Highway, Hoboken, N.J. (1916)

BERNSTEIN, Edward Morris, 3513 Northampton St., N.W., Washington, D.C. (1935) A **Treas. Dept., asst. dir. of monetary res., R;** Univ. of North Carolina, prof., T. B Ph.B., 1927, Chicago; A.M., 1928, Ph.D., 1930, Harvard. C Public utility rate making and the price level (Univ. of North Carolina Press, 1937). D 7, 5, 8. F Money and the economic system (Univ. of North Carolina Press, 1935); "Wage rates, investment, and employment," J.P.E., Sept., 1939; "War and the pattern of business cycles," A.E.R., Sept., 1940. G S.

BERNSTEIN, Louis Morton, L. Bamberger and Co., Newark, N.J. (1932)

BERRIDGE, William Arthur, 1 Madison Ave., New York City. (1921) A Metropolitan Life Ins. Co., econ., R. B A.B., 1914, A.M., 1919, Ph.D., 1922, Harvard. C Employment and the business cycle. D 5, 9, 6. E Economic forces which impinge on life insurance. F Cycles of unemployment in the United States (Houghton Mifflin, 1923); Purchasing power of the consumer (with E. A. Winslow and R. A. Flinn) (A. W. Shaw Co., 1925); Employment statistics for the United States (with R. G. Hurlin) (Russell Sage Found., 1926). G WS.

BERRY, Thomas Senior, Box 4703, Duke Sta., Durham, N.C. (1933) A Duke Univ., instr., T. B S.B., 1927, A.M., 1932, Ph.D., 1938, Harvard. C Wholesale commodity prices in the Ohio Valley, 1816-60 (to be pub.). D 2, 4, 11. E Kanawha salt combinations, 1812-80; San Francisco prices, currency, and trade, 1847-82. F Contributor and coeditor, Economic literature of Latin America (Harvard Univ. Press, 2 vols., 1936, 1937); "On measuring the cost of life insurance," Jour. of Amer. Statis. Asso., Dec., 1940.)

BERTRAM, Rudolf Friedrich, 3017 Kenilworth Lane, Knoxville, Tenn. (1937)

BEST, Harry, Univ. of Kentucky, Lexington, Ky. (1936) A Univ. of Kentucky, prof., T. B A.B., 1901, Centre; M.A., 1902, George Washington, Gallaudet; LL.B., 1912, New York; M.A., 1908, Ph.D., 1914, Columbia. C The deaf: their position in society and the provision for their education in the United States (Crowell). D 18, 17, 16. E Deafness and the deaf in the U. S. F. Blindness and the blind in the United States (Macmillan, 1932); Crime and criminal law in the United States (Macmillan, 1935); The soviet experiment (R. R. Smith, 1941). G WS.

BESTOR, Paul, 436 Ridgewood Ave., Glen Ridge, N.J. (1941) A Prudential Ins. Co. of America, 2nd vice-pres., A. B B.A., 1909, LL.D., 1937, Tarkio; B.A., 1910, Yale. D 9, 15, 2. F "The federal farm loan system," Americana Ann., 1930-32; "Administration of farm credit," The Sphere, 1932; "Farm debt adjustments," Jour. of Farm Econ., 1935. G W.

BETHKE, William, 4101-13 S. Michigan Ave., Chicago, Ill. (1919) A La Salle Extension Univ., vice-pres., RA. B B.A., 1910, M.A., 1911, Minnesota. D 12, 11, 15. E Insurance field management. G W.

BEZANSON, Anne, Ind. Res. Dept., 3440 Walnut St., Philadelphia, Pa. (1918) A Univ. of Pennsylvania, Ind. Res. Dept., dir., and Grad. School, res. prof. of ind., TR; Rockefeller Found., Soc. Sci. Div., member. B A.B., 1915, M.A., 1916, Ph.D., 1929, Radcliffe. C Earnings and working opportunity in the upholstery weavers' trade in twenty-five plants in Philadelphia (Univ. of Pennsylvania Press). D 1, 2, 5. E Commodity prices in Philadelphia, 1852-96. F "Skill," Q.J.E., 1922; Wage methods and selling costs (1931), Wholesale prices in Philadelphia (2 vols., 1936, 1937) (Univ. of Pennsylvania Press). G WS.

BIDGOOD, Lee, University, Ala. (1911) A Univ. of Alabama, School of Com. and Bus. Admin., dean, TA. B B.A., 1905, M.A., 1906, Virginia. D 9, 10, 2. F First explorations of the trans-Allegheny region (with C. W. Alvord) (A. H. Clark, 1912); Introductory sociology (with E. W. Gregory, Jr.) (Prentice-Hall, 1939). G W.

BIDWELL, Percy Wells, 45 E. 65th St., New York City. (1912) A Coun. on For. Rela., dir. of studies, R. B B.A., 1910, M.A., 1912, Ph.D., 1915, Yale. C Rural economy in New England at the beginning of the nineteenth century. D 8, 2, 3 F History of northern agriculture, 1620-1860 (with J. I. Falconer) (Carnegie Inst., 1925); The invisible tariff (Coun. on For. Rela., 1939); Mobilizing civilian America (with H. J. Tobin) (Coun. on For. Rela., 1940). G WS.

BIEBER, George De Walt, 921 Clarissa St., Pittsburgh, Pa. (1941) A Koppers Co., chem. econ., R. B B.S., 1937, Franklin and Marshall; M.A., 1940, Ph.D., 1941, Pittsburgh. C The competitive position of cotton and the other textile fibers. D 12, 4, 13. F "Cotton linters as a source of chemical cellulose," Chem. and Metal. Engr., Jan., 1941.

BIGELOW, Karl Worth, 744 Jackson Pl., N.W., Washington, D.C. (1925) A **Amer. Coun. on Educa., Com. on Teacher Educa., dir., A;** Columbia Univ., Teachers Col., prof. of educa., TR. B B.A., 1920, L.H.D., 1938, Clark; Ph.D., 1929, Harvard; LL.D., 1941, Parsons. C Development of the entrepreneur concept, to 1850, in French and English economic theory. D 1. G S.

BIGGS, Robert Mitchell, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1941) A Univ. of Michigan, teaching fellow, TR. B A.B., Wayne; A.M., Michigan. D 1, 7, 10. E Historical aspects of the concept of capital (doctoral dissertation).

BIGHAM, Truman C., 1901 Columbia Rd., N.W., Washington, D.C. (1928) A. **Bd. of Investigation and Res., secy., RA;** Univ. of Florida, T. B. A.B., 1920, Baylor; M.A., 1925, Chicago; Ph.D., 1927, Stanford. C Superpower. D 14, 10, 6. E Text on public transportation policy. F Principles of

public utilities (with Eliot Jones) (Macmillan, 1931). G SE.

BILLIG, William Clinton, Univ. of Southern California, Col. of Com., Los Angeles, Calif., (1936)

BILLINGS, Arthur Goodwyn, Box 1571, Austin, Tex. (1940) A Univ. of Texas, instr. B A.B., 1933, Kansas; certificaté, 1934, Institut des Hautes Etudes Internationales, Université de Paris; certificat, 1935, Ecole Nationale des Langues Orientales Vivantes, Université de Paris; M.A., 1941, Harvard. D 1, 7, 10. E Economic systems.

***BING, Alexander M.,** 18 E. 48th St., New York City. (1919)

BINGHAM, Robert H., Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1942)

BIRD, Francis Henry, Univ. of Cincinnati, Col. of Engr. and Com., Cincinnati, Ohio. (1909) A Univ. of Cincinnati, Bus. Admin. Dept., head, prof., TA. B A.B. 1909, A.M., 1910, Dartmouth; Ph.D., 1917, Wisconsin. C Belgian superior council of labor. D 17, 11, 18. F Employment certificate system of Maryland (with E. A. Merritt) (U. S. Dept. of Labor, 1919); "Cost of living in wage adjustments, book and job branch, Chicago printing industry," A.E.R., Dec., 1921. G S.

BIRNBERG, Richard George, 1364 Spring Rd., N.W., Washington, D.C. (1942) A **WPB, Div. of Civ. Sup., econ., RA.** B A.B., 1941, Columbia. D 1, 2, 11. E Economic analysis of certain federal controls such as wage, production, and credit. F Marxian theory of trade cycle (privately pub., 1941).

BISCOE, Alvin Blocksom, 114 S. 4th St., Lewisburg, Pa. (1937)

BISHOP, Philip William, Oberlin Col., Dept. of Econ., Oberlin, Ohio. (1940) A Oberlin Col., instr., T. B B.Com., 1927, London Univ. D 4, 6, 9. E History of accounting in the U.S. and Great Britain from 1900 (doctoral dissertation, Yale). F State grants in lieu of taxes, Local taxation of motor vehicles as property (Ann. Report of Legis. Coun., State of Conn., 1941).

BISHOP, Ward L., 169 Stewart Ave., Garden City, N.Y. (1932) A Ideal Clamp Mfg. C., B. B A.B., 1923, Earlham; A.M., 1924, Ph.D., 1928, Illinois. C An economic analysis of the constitutional restrictions upon municipal indebtedness in Illinois (Univ. of Illinois Studies in Soc. Sci.). D 9, 6, 1. G S.

BISSELL, Richard Mervin, Jr., 3418 Q St., N.W., Washington, D.C. (1936) A **Dept. of Com., Bur. of For. and Dom. Com., chief econ. anal., R;** M.I.T., TR. B B.A., 1932, Ph.D., 1939, Yale. C The theory of capital under static and dynamic conditions. D 1, 5, 6. E Determinants of the volume of employment; book on general economic analysis. F "The rate of interest," A.E.R., Mar. Sup., 1938; "Price and wage policies and the theory of employment," Econometrica, July, 1940; "Prices, costs, and investment employment," A.E.R., Feb., 1941. G S.

BITTERMANN, Henry John, Ohio State Univ., Dept. of Econ., Columbus, Ohio. (1928) A Ohio State Univ., asso. prof., TR. B B.A., 1925, Amherst; Ph.D., 1932, Chicago. C State and federal grants-in-aid (pub. in revised form, Mentzer, Bush and Co., Chicago, 1938). D 1, 6, 4. E Theory of composite monopoly and monopoloid prices and production. F "Elasticity of supply," A.E.R., Sept., 1934; "Adam Smith's empiricism and the law of nature," J.P.E., Aug. and Oct., 1940. G S.

BLACK, Albert Gain, Farm Credit Admin., Washington, D.C. (1925) A Farm Credit Admin., gov., A. B B.S., 1920, Illinois; M.A., 1925, Ph.D., 1927, Minnesota. D 15, 8, 7. G WS.

BLACK, Henry Rolland Ellis, 4620 Hunt Ave., Chevy Chase, Md. (1940) A **WSP, Commonwealth of Australia, procurement officer, B.** B B.E., 1924, Univ. of New Zealand; M.B.A., 1934, Michigan. D 11, 12, 4.

BLACK, John Donald, Harvard Univ., Cambridge, Mass. (1919) A Harvard Univ., TRA. B A.B., A.M., 1909, Ph.D., 1918, Wisconsin. C Land tenure in Wisconsin. D 15, 12, 11. E Agricultural policy; land use planning. F Parity, parity, parity (Harvard Com. on Res. in Soc. Sci., June, 1942). G WSIE.

BLACKBURN, Burr, Household Fin. Corp., 919 N. Michigan Ave., Chicago, Ill. (1929)

BLACKBURN, Raymond Franklin, Univ. of Pittsburgh, Pittsburgh, Pa. (1939) A Univ. of Pittsburgh, Dept. of Statis., head, TR. B B.S., 1925, Ph.D., 1939, Pittsburgh; M.A., 1927, Michigan. C A study of the sequential relationship between a number of time series representing business and financial conditions and the general business cycle for the period 1919-38. D 4, 5, 10. E Control of prices in the U.S.

BLACKSTONE, Alva E., 121 Walnut St., Wayne, Pa. (1935) A Drexel Inst. of Tech., prof. of econ., TA. B B.S., 1911, Ohio; A.M., 1916, Pennsylvania. D 1, 6, 14. E Residential property values in Philadelphia (doctoral dissertation).

BLADEN, Vincent Wheeler, 273 Bloor St., W., Toronto, Canada. (1924) A Univ. of Toronto, prof., T; Canadian Jour. of Econ. and Polit. Sci., managing ed. B B.A., 1921, M.A., 1925, Oxford. D 1, 5, 20. E History of political economy. F Introduction to political economy (Univ. of Toronto Press, 1941).

BLAINE, (Mrs.) Emmons, 101 E. Erie St., Chicago, Ill. (1910)

BLAINE, James Cyril Dickson, 305 Bingham Hall, Chapel Hill, N.C. (1940) A Univ. of North Carolina, asst. prof., T. B B.Com., 1934, Queen's Univ., Canada; M.S., 1939, Ph.D., 1941, North Carolina. C The significance of air passenger traffic on the domestic scheduled airlines of the United States, 1935-40. D 14, 12, 11. E Survey of commercial air transportation in the U.S.; a functional approach to business organization.

BLAIR, Jacob J., Univ. of Pittsburgh, Pittsburgh, Pa. (1935) A Univ. of Pittsburgh, asst. prof., T. B A.B., 1924, Cincinnati; M.A., 1929, Pennsylvania. D 11, 17, 1. E Evaluation of methods used to set output standards in plants of the Pittsburgh district (doctoral dissertation). F Extra time allowances (Nat. Res. Coun., 1941).

BLAKE, Edwin Mortimer, Drawer A, Pratt Sta., Brooklyn, N.Y. (1909)

BLAKEY, Roy Gillispie, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1912) A Univ. of Minnesota, prof. of econ., TR. B Ph.B., 1905, LL.D., 1940, Drake; M.A., 1910, Univ. of Colorado; Ph.D., 1912, Columbia. C The United States beet sugar industry and the tariff. D 6, 8, 19. E Minnesota income, its distribution, relation to housing, taxation, etc.; special federal and state taxes. F The federal income tax (with G. C. Blakey) (Longmans, Green, 1940); series of articles on federal revenue acts, with G. C. Blakey, A.E.R., 1914-41; Taxation in Minnesota (with others) (Univ. of Minnesota Press, 1932). G WSIE.

BLANCHARD, Ralph Harrub, Columbia Univ., School of Bus., New York City. (1912) A Columbia Univ., prof. of ins., T. B A.B., 1911, A.M., 1912, Dartmouth; Ph.D., 1916, Pennsylvania. C Industrial accidents and workmen's compensation (Chaps. 1 to 6 in Liability and compensation insurance). D 9, 18, 10. G WSE.

BLASER, Arthur F., Jr., 6 Alder Ave., Troy, N.Y. (1940)

BLISS, Charles Andressen, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1928) A Harvard Univ., Grad. School of Bus. Admin., asso. prof. of bus. statis., T. B A.B., 1926, M.A., 1929, California; Ph.D., 1939, Columbia. C Structure of manufacturing production (Nat. Bur. of Econ. Res., 1939). D 4, 11, 13. F "Our trade to South America," Harvard Bus. Rev., Autumn, 1941; "Problems posed for industry," Annals, Mar., 1942. G S.

BLISS, Z. W., Box 156, Providence, R.I. (1912)

BLOCH, Henry Simon, Univ. of Chicago, Soc. Sci. Bldg., Box 50, Chicago, Ill. (1938) A Univ. of Chicago, res. asst. in gov. and fin., TR. B Ingénieur Commercial, 1935, Docteur en Droit (Sc. Econ.), 1937, Univ. of Nancy, France. C La théorie des besoins de Carl Menger (Librairie Générale de Droit, Paris, 1937). D 6, 10, 8. E Intergovernmental borrowing; war finance; postwar financial

policies. **F** Co-author, Economic mobilization (Amer. Coun. on Pub. Affairs, 1940); "Carl Menger: founder of the Austrian School," J.P.E., 1940; "Borrowing for national defense," Tax Mag., 1941.

BLOCK, Herbert, 105 Pinehurst Ave., New York City. (1941) **A** New School for Soc. Res., res. member, R. **B** Dipl. rer. pol., 1924, Dr. rer. pol., 1926, Univ. of Freiburg i. Br., Germany. **C** Die Marxsche geldtheorie (Gustav Fischer Verlag, Jena, 1926). **D** 10, 8, 2. **E** Conversion of industries of civilian goods to armament production in Germany. **F** Subcontracting of German defense industries (Reports of the Tolan Committee, 1941); "Monetary theory," "Bank of England," Handwörterbuch des Bankwesens, 1932; reports on Bulgaria, Financial Com., League of Nations, 1932.

BLODGETT, Ralph Hamilton, Univ. of Illinois, Urbana, Ill. (1935) **A** Univ. of Illinois, asso. prof., T. **B** B.S., 1927, Vermont; A.M., 1928, Syracuse; Ph.D., 1933, Pennsylvania. **C** Cyclical fluctuations in commodity stocks (Univ. of Pennsylvania Press, 1935). **D** 1, 3, 5. **E** Comparative economic systems. **F** Principles of economics (Farrar and Rinehart, 1941); Economics: principles and problems (Harper, rev. 1942); Getting and earning (Crofts, 1937). **G** S.

BLOOM, Gordon F., 1131 Allison St., N.W., Washington, D.C. (1942) **A U. S. Naval Res., ensign.** **B** B.A., 1939, Buffalo; M.A., M.P.A., 1941, Harvard. **D** 17, 1, 5. **E** Economic effect of unionism upon American economy. **F** "Technical progress, costs and rent," Economica, Feb., 1942; "A reconsideration of the theory of exploitation," Q.J.E., May, 1941.

BLOOM, Max Robert, 21 Kennedy St., N.W., Washington, D.C. (1940) **A WPB, asst. ind. econ. anal., R;** R. **B** B.S.S., 1939, City of New York; certificate, 1940, New School for Soc. Res.; grad. work, American. **D** 16, 1, 5. **F** "Different rentals and public housing," Jour. of Soc. Studies, Winter, 1940-41.

BLOOMBERG, Lawrence Nelson, Fed. Pub. Hous. Auth., Longfellow Bldg., Washington, D.C. (1935) **A** Fed. Pub. Hous. Auth., asso. chief econ. and plan. officer, R. **B** B.A., 1930, Richmond; M.A., 1933, Ph.D., 1934, Johns Hopkins. **C** The investment value of goodwill (Johns Hopkins Press, 1938). **D** 16, 8, 11. **E** Postwar planning of urban redevelopment; duration of occupancy of tenants and its relationship to tenant turnover. **F** "Extra families and the demand for housing," Jour. of Land and Pub. Util. Econ., Feb., 1936; "Statistical examination of mortgage experience," Savings Banker, Jan., Feb., 1942.

BLOOMFIELD, Arthur Irving, Federal Reserve Bank of New York, 33 Liberty St., New York City. (1938) **A** Fed. Res. Bank of New York, for. statis., R. **B** B.A., 1935, M.A., 1936, McGill; Ph.D., 1942, Chicago. **C** International capital movements and the American balance of payments, 1929-40. **D** 8, 7, 5. **E** Exchange rates under the pre-1914 gold standard; wartime international finance. **F** "The significance of outstanding securities," Canadian Jour. of Econ. and Polit. Sci., Nov., 1940; "Foreign-trade doctrines of the physiocrats," A.E.R., Dec., 1938.

BLOOMFIELD, Daniel, 80 Federal St., Boston, Mass. (1934) **A OPA, New England Regional Office, consultant;** Retail Trade Bd., Boston, mgr.; Boston Conf. on Dist., dir., B. **B** A.B., 1912, Harvard; LL.B., 1915, Boston. **D** 12, 19, 17. **F** Labor maintenance (Ronald Press, 1920); Trends in retail distribution (Wilson, 1931); Chain stores and legislation (Wilson, 1939). **G** WI.

BLOUGH, (J.) Roy, 3243 N. Abingdon St., Arlington, Va. (1924) **A** Treas. Dept., dir. of tax res., R. **B** A.B., 1921, Manchester; M.A., 1922, Ph.D., 1929, Wisconsin. **C** The geographical problem in Wisconsin taxation (Wis. Tax Com., Bul. No. 39, 1930). **D** 6, 10, 1. **E** Economic aspects of federal tax policy. **F** Facing the tax problem (with Carl Shoup and Mabel Newcomer) (Twentieth Cent. Fund, 1937). **G** S.

BLUM, Jay William, Gambier, Ohio. (1937) **A** Kenyon Col., asst. prof., T. **B** A.B., 1929, Wooster; M.A., 1930, Ph.D., 1934, Princeton. **C** National collective bargaining in the flint glass industry. **D** 10, 11 3. **E** U. S. aviation financing since 1933. **F** "Federal Securities Act of 1933," J.P.E., Jan., 1938.

BOALS, Gordon P., U. S. Dept. of Agric., Bur. of Agric. Econ., Office of For. Agric. Rela., Washington, D.C. (1929)

BOATWRIGHT, John Wilbur, Standard Oil Co., 910 S. Michigan Ave., Chicago, Ill. (1931) **A** Standard Oil Co., Sales Res. Dept., mgr., RA. **B** A.B., 1927, William Jewell; A.M., 1929, American; Ph.D., 1932, Northwestern. **C** Evolution of economic concepts of the Supreme Court. **D** 12, 1, 4. **E** Industrial management. **F** "Principles and procedures for putting across business statistics reports to executives," Jour. of Amer. Statis. Asso., June, 1941; "Competition and electric rates," Jour. of Land and Pub. Util. Econ., May, 1931. **G** S.

BOBER, Mandell Morton, 2551 17th St., N.W., Washington, D.C. (1927) **A OPA, prin. econ., R;** Lawrence Col., prof. of econ., T. **B** B.S., 1918, Montana; A.M., 1920, Ph.D., 1925, Harvard. **C** Karl Marx's interpretation of history (Harvard Econ. Studies, Vol. 31). **D** 1, 11, 7. **F** Contributor to Exploration in economics (McGraw-Hill, 1936); "Price and production policies," A.E.R., TNEC Sup., 1942. **G** WSE.

BOBER, William C., Johns Manville Corp., 22 E. 40th St., New York City. (1939)

BODDY, Francis Murray, Univ. of Minnesota, Minneapolis, Minn. (1934) **A Nat. Res. Plan. Bd., part-time consultant, R;** Univ. of Minnesota, asst. prof. of econ., T. **B** B.B.A., 1930, M.A., 1936, Ph.D., 1939, Minnesota. **C** Effects of cost on price and production policy in a joint-cost industry (abstract, Univ. of Minnesota Bul.). **D** 1, 11, 4. **E** Location of manufactures in the U.S., 1929-39; industrial location factors and defense location. **F** Location of manufactures in the United States, 1899-1929 (with F. B. Garver and A. J. Nixon) (Univ. of Minnesota, Employ. Stabil. Res. Inst., 1933). **G** S.

§**BODFISH, Morton,** 221 N. La Salle St., Chicago, Ill. (1926) **A** U. S. Savings and Loan League, exec. vice-pres., B; Northwestern Univ., School of Com., prof. of real estate, T. **B** B.S., 1924, M.A., 1926, Ohio State. **D** 16, 9, 3. **F** Savings and loan principles (Prentice-Hall, 1938); Savings and loan annals (yearly, 1930-41), History of building and loan in the United States (1931) (U. S. Savings and Loan League). **G** W.

BOEDECKER, Karl A., Lake Forest Col., Lake Forest, Ill. (1941) **A** Lake Forest Col., asst. to pres., instr., TA. **B** Ph.B., 1937, Ph.M., 1940, Wisconsin. **D** 9, 1, 4.

BOEHMLER, Erwin William, 19 S. La Salle St., Chicago, Ill. (1939) **A** Central Y.M.C.A. Col., School of Com., dean, A. **B** B.S., 1923, J.D., 1927, M.B.A., 1931, Northwestern. **D** 9, 11, 7.

BOER, Arend Edward, Univ. of Pittsburgh, Pittsburgh, Pa. (1937) **A** Univ. of Pittsburgh, asst. prof., T. **B** A.B., 1923, M.A., 1930, Michigan; Ph.D., 1936, Pittsburgh. **C** Retail store mortality (Univ. of Pittsburgh Bul., 1936). **D** 12, 3. 4. **F** "Aspects of retail trade mortality," Jour. of Market., 1937.

BOETTLER, Herbert F., 630 Vassar Ave., University City, Mo. (1922)

BOGART, Ernest Ludlow, 25 W. 10th St., New York City. (1897) **A** Univ. of Illinois, emeritus prof. of econ., TR. **B** A.B., 1890, A.M., 1897, Princeton; Ph.D., 1898, Univ. of Halle. **C** Die Finanzverhältnisse der Einzelstaaten der Nordamerikanischen Union (Jena, 1897). **D** 2, 6. **E** History of Peacham, Vt. **F** Economic history of the American people (3rd ed., 1942), Economic history of Europe (1942) (Longmans, Green); War costs and their financing (Appleton-Century, 1921). **G** WSI.

BOGEN, Jules I., 315 W. 106th St., New York City. (1931) **A** New York Univ., prof. of fin., T. **B** B.S., 1922, A.M., 1924, Ph.D., 1927, Columbia. **C** The anthracite railroads (Ronald Press, 1927). **D** 9, 7, 3. **E** Corporate financial policies; railroad reorganizations. **F** Investment banking (Harper, 1929, 1937); Analysis of railroad securities (Ronald Press, 1928). **G** WS.

BOGGS, Theodore Harding, Stanford University, Calif. (1935)

BOHAN, Richard Timothy, 2008 S. 10½ St., Terre Haute, Ind. (1938) **A Nat. War Agency, econ., T;** Col. of St. Mary of the Woods, prof., TRA. **B** B.B.A., 1924, M.B.A., 1925, Univ. of Washington; Ph.D., 1940, Michigan. **C** Effect of the agrarian revolution on Mexican agricultural production. **D** 2, 1, 8. **E** Effect of the war on agricultural exports of the U.S. **F** "Suggested changes in economic curriculum," A.E.R., Sept., 1937; "Evolution of land ownership in Mexico," Latin Amer. Hist. Rev.; Social security legislation (Bur. of Labor Statis. Bul., Sept., 1935). **G** E.

BOHLMAN, Herbert William, 1648 40th St., S.E., Washington, D.C. (1924) **A OPA, sr. bus. anal., R;** Drake Univ., Grad. Div., dean, prof. of econ., T. **B** A.B., 1919, Lawrence; M.A., 1922, Ph.D., 1936, Wisconsin. **C** The cost of distributing consumer goods. **D** 10, 17, 7. **F** Labor market in Iowa (privately pub., 1937); Our economic problems (Heath, 1942). **G** S.

BOHN, Carl, 331 Bement Ave., Staten Island, N.Y. (1936) **A** Port Richmond High School, T. **B** B.S., 1927, M.A., 1931, Pennsylvania. **D** 1, 5, 2.

BOLDEN, Norman Ray, 309 Carmel St., Charlotte, N.C. (1932) **A** Johnson C. Smith Univ., prof. of econ., T. **B** A.B., 1926, Pittsburgh; M.A., 1934, Wisconsin. **D** 17, 1, 18.

BONBRIGHT, James Cummings, Columbia Univ., New York City. (1915) **A** Columbia Univ., prof. of fin.; Power Authority of State of N.Y., chmn.; TR. **B** B.S., 1913, Northwestern; Ph.D., 1920, Columbia. **C** Railroad capitalization (Columbia Univ. Press, 1920). **D** 14, 9, 1. **F** The holding company (with G. C. Means) (McGraw-Hill, 1932); Valuation of property (McGraw-Hill, 1937); Public utilities and the national power policies (Columbia Univ. Press, 1940). **G** WS.

BOND, Floyd A., Univ. of Michigan, Econ. Dept., Ann Arbor, Mich. (1939) **A** Univ. of Michigan, instr., T. **B** A.B., 1938, A.M., 1940, Ph.D., 1942, Michigan. **C** The Washtenaw Gas Company: a study in public utility regulation. **D** 14, 10, 1.

BONDE, Ruth L., Pennsylvania State Col., Dept. of Home Econ., State College, Pa. (1941) **A** Pennsylvania State Col., T. **B** B.S., 1936, Minnesota; M.S., 1940, Iowa State Col. **D** 19.

BONER, J. Russell, Univ. of Illinois, 436 Commerce Bldg., Urbana, Ill. (1937) **A** Univ. of Illinois, instr. in econ., T. **B** A.B., 1928, Univ. of Colorado; A.M., 1937, Ph.D., 1942, Illinois. **C** Background, extent and consequences of federalization of savings and loan associations. **D** 3, 9, 1. **F** "Regulation of installment credit," Opinion and Comment (Univ. of Illinois), Nov. 18, 1941; "Depression experience of savings and loan associations," Apr. 1, 1939, "Summary of HOLC and FHA activities," Apr. 1, 1940, Bus. News (Univ. of Alabama).

BONNELL, Allen Thomas, Univ. of North Carolina, 314 Bingham Hall, Chapel Hill, N.C. (1936) **A** Univ. of North Carolina, School of Com., asst. prof. of econ., T. **B** B.A., 1933, M.A., 1934, Oberlin; Ph.D., 1937, Illinois. **C** German control over international economic relations, 1930-37. **D** 8, 2, 1. **F** "The postwar international economic order," S.E.J., July, 1942; "Foreign trade of Italy, 1925-35," Annuario della Camera di Commercio Italiana (in New York), Vol. XII; German control over international economic relations, 1930-40 (Univ. of Illinois Press, mono., 1940). **G** S.

BONNETT, Clarence Elmore, Tulane Univ., New Orleans, La. (1936)

BOONE, Gladys, Sweet Briar, Va. (1928) **A** Sweet Briar Col., chmn. of div., prof., TRA. **B** B.A., 1916, M.A., 1917, Birmingham Univ., England; Ph.D., 1941, Columbia. **C** The women's trade union leagues in Great Britain and the United States of America. **D** 17, 10, 3. **E** Use of women in war work and in conjunction with the armed forces in Great Britain and the U.S. **F** Labor laws of twelve southern states (Nat. Consumers' League, 1934); Labor laws of Virginia (Univ. of Virginia, 1940); Household employment study, Lynchburg, Virginia (Y.W.C.A. and Sweet Briar Col., 1937).

BOORD, H. O., 305 Wilson Ave., Washington, Pa. (1937)

BOOTHE, Viva B., Ohio State Univ., Bur. of Bus. Res., Columbus, Ohio. (1941) **A** Ohio State Univ., Bur. of Bus. Res., dir.; Bul. of Bus. Res., ed. **B** A.B., 1918, Texas; M.A., 1920, Ph.D., 1923, Pennsylvania. **C** The political party as a social process (privately pub.). **D** 5, 4, 3. **E** Seasonality in Ohio industry; average annual money and real wages in Ohio industry, 1914-42. **G** S.

BOPP, Karl Richard, Fed. Res. Bank, 925 Chestnut St., Philadelphia, Pa. (1936)

BORAK, Arthur M., Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1927) **A** Univ. of Minnesota, asso. prof. of econ., T. **B** B.S., 1923, M.A., 1925, Ph.D., 1929, Minnesota. **C** The financial history of the Chicago, Milwaukee and St. Paul Railway Company. **D** 6, 1, 7. **F** "Tax equivalents of municipal electric utilities," Jour. of Land and Pub. Util. Econ., Feb., 1941; "Minnesota changes its tax system," Nat. Tax Asso. Bul., Apr. and May, 1938; Fees and other non-tax revenues of Minnesota local units (Univ. of Minnesota Press, 1935). **G** S.

BORDEN, Neil Hopper, 310 Morgan Hall, Soldiers Field, Boston, Mass. (1925) **A** Harvard Univ., Grad. School of Bus. Admin., prof., TR. **B** A.B., 1919, Univ. of Colorado; M.B.A., 1922, Harvard. **D** 12, 19, 3. **F** The economic effects of advertising (R. D. Irwin, 1942); Problems in advertising (McGraw-Hill, 3rd ed., 1937); Co-operative advertising (Harvard Bus. Reports, McGraw-Hill, 1932).

BORNEMANN, Alfred H., 1618 Jefferson Ave., Brooklyn, N.Y. (1939) **A** Rutgers Univ., instr., T. **B** B.A., 1933, M.A., 1937, Ph.D., 1941, New York. **C** J. Laurence Laughlin: chapters in the career of an economist (Amer. Coun. on Pub. Affairs). **D** 7, 4, 11.

BORTH, Daniel, Jr., U. S. Army, Q.M.C., Washington, D.C. (1935)

BORTZ, Nelson Markley, Dutch Acres, Bannockburn, Rt. 3, Bethesda, Md. (1932) **A** U. S. Bur. of Lab. Statis., labor econ. **B** B.S., 1930, Ursinus; M.A., 1931, Clark; grad. work, 1931-32, Pennsylvania. **D** 17, 14, 10. **G** S.

BOSLAND, Chelcie Clayton, Brown Univ., Providence, R.I. (1925) **A** Brown Univ., Dept. of Econ., chmn., asso. prof., TA. **B** B.S., 1923, M.A., 1924, Minnesota; Ph.D., 1929, Michigan. **C** A statistical study of stock prices. **D** 9, 10, 14. **E** Taxation of corporations. **F** The common stock theory of investment (Ronald Press, 1937); "The investment company act of 1940 and its background," J.P.E., Aug., Oct., 1941. **G** S.

BOUDIN, Louis B., 20 W. 43rd St., New York City. (1912)

BOURNE, William Nettleton, 66 Sparks St., Cambridge, Mass. (1940) **A** Harvard Univ., student. **B** A.B., 1917, Yale; A.M., 1920, Harvard. **D** 16, 17, 19.

BOUVIER, Emile Elie, Ecole Sociale Populaire, 1961 Rachel St., Montreal, Canada. (1941) **A** Montreal Univ. School of Soc. Service, prof. T. **B** A.B., 1928, A.M., 1930, Boston Col.; Ph.D., 1932, Georgetown Univ. **C** Comparative study of quadragesimo anno and rerum novarum. **D** 17, 18, 3. **E** Industrial relations; the economic impact of the collective bargaining system of the Province of Quebec. **F** Le service social (Ecole Sociale Populaire, 1940).

BOVET, Eric David, 2960 Newark St., N.W., Washington, D.C. (1942) **A U. S. Navy Dept., ed. of reports, statis. anal., A;** R. **B** B.A., 1920, Gymnase Littéraire, Neuchatel, Switzerland; B.D., 1925, Fac. de Théologie, Lausanne; M.A. (Econ.) 1927, Univ. of Geneva. **D** 1, 5, 11. **E** Man-made economic uncertainty (doctoral dissertation); further studies on uncertainty. **F** The Mayer plan of self-endowed communities (Nat. Communities Corp., 1939).

BOWDEN, Witt, 3546 Chesapeake St., N.W., Washington, D.C. (1931) **A** U. S. Bur. of Labor Statis., econ., R. **B** A.B., 1914, Univ. of Colorado; Ph.D., 1919, Pennsylvania. **C** Rise of the great manufacturers of England (privately pub., 1919). **D** 17, 2, 1. **F** Industrial society in England (Mac-

millan, 1925); Economic history of Europe since 1760 (with M. Karpovitch and A. P. Usher) (Ginn, 1937); Wages, hours, and productivity of industrial labor (U. S. Bur. of Labor Statis., 1940). G WS.

BOWEN, Howard Rothmann, State Univ. of Iowa, Iowa City, Iowa. (1936) A State Univ. of Iowa, asso. prof. of econ., T. B B.A., 1929, M.A., 1933, State Col. of Washington; Ph.D., 1935, Iowa. C The theory of gold movements in light of post-war events. D 1, 6, 5. E Analysis of basic concepts of welfare economics; the role of politics in the economic system. F English grants-in-aid (Iowa Studies in Soc. Sci., 1939); "Capital in relation to optimum population," Soc. Forces, Mar., 1937; Iowa income: 1909-35 (Bur. of Bus. Res., Univ. of Iowa, 1935). G S.

BOWERS, Edison Louis, Ohio State Univ., Commerce Bldg., Columbus, Ohio. (1923)

BOWLER, John Francis, 4821 Jackson Blvd., Chicago, Ill. (1942) A Northwestern Univ., student, R. B B.C.S., 1927, Loyola Univ., Chicago. D 7, 1, 4. E Direct purchases of government securities by the Federal Reserve System (master's thesis).

‡**BOWLEY, Arthur Lyon,** Univ. of London, London, England. (1932)

BOWLUS, Robert Edgar, Univ. Sta., Baton Rouge, La. (1942) A Louisiana State Univ., res. asst., R. B B.S., 1940, Mississippi State Col.; M.S., 1942, Louisiana State. D 10, 15, 12. E Economic effects of government cotton loans.

BOWMAN, Dean Orlando, Univ. of Michigan, Ann Arbor, Mich. (1938) A **OPA, asst. price exec., A;** Univ. of Michigan, instr. in econ., TR. B B.S., 1933, M.S., 1934, Purdue; Ph.D., 1941, Michigan. C Public control of labor relations (Macmillan, 1942). D 10, 17, 1.

BOWMAN, Raymond Tomlinson, 1502 Market St., Camp Hill, Pa. (1929) A **Dept. of Pub. Asst., deputy secy., A;** Univ. of Pennsylvania, asst. prof., T. B B.S. in Econ., 1925, Ph.D., 1933, Pennsylvania. C A statistical study of profits (Univ. of Pennsylvania Press, 1934). D 1, 4. 18. G S.

BOWMAN, Ward S., Jr., Wilton Woods, Rt. 4, Alexandria, Va. (1937) A Dept. of Justice, Antitrust Div., econ. expert. B A.B., 1933, Univ. of Washington. D 11, 10, 1.

BOYD, Robert Kenneth, Collegedale, Tenn. (1942) A Southern Junior Col., Bus. Admin. Dept., head, T. B B.A., 1930, Emmanuel Missionary Col.; M.A., 1938. Michigan State Col. D 1, 4.

BOYDEN, Theodore Childs, 403 Sheffield Hall, New Haven, Conn. (1940) A **OPA, asso. bus. anal., A;** Yale Univ., asst. in instr., T. B B.A., 1936, Amherst; M.A., 1941, Harvard. D 1, 2, 7. E Development of the Pennsylvania oil fields.

BOZIC, Alexander, 2303 Union Central Bldg., Cincinnati, Ohio. (1938)

BRADBURY, Robert Wesley, 4758 Tulane Dr., Baton Rouge, La. (1940) A Louisiana State Univ., prof. of bus. admin., Div. of Latin Amer. Rela., dir., TA. B B.A., 1926, Albion; M.A., 1927, Ph.D., 1937, Michigan. C A monetary and banking history of Mexico. D 8, 16, 2. F Water-borne commerce of the port of New Orleans.

BRADEN, Samuel Edward, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1938) A Indiana Univ., asst. prof., T. B A.B., 1932, Oklahoma; M.A., 1935, Ph.D., 1941, Wisconsin. C Difficulties of international trade under managed paper standards. D 8, 7, 18. E Theory and practice of forward exchange. F Chapter, Economic problems of war (Wiley, 1942).

BRADFORD, Frederick Alden, Lehigh Univ., Bethlehem, Pa. (1923) A Lehigh Univ., Dept. of Fin., head, T. B A.B., 1921, A.M., 1923, Ph.D., 1926, Michigan. C Recent banking developments in the City of Cleveland. D 7, 5, 6. F Money and banking (Longmans, Green, 5th ed., 1942); Legal status of branch banking (Amer. Econ. Coun. for Study of Branch Banking, 1940). G WS.

BRADLEY, Clifton James, W. 1011 4th Ave., Spokane, Wash. (1930) A Rural Elec. Admin., asso. field rep. B B.S., 1926, Kentucky; M.S., 1927, Illinois; grad. work, 1931, California. D 7, 15, 16. F Contributor, Ky. Agric. Exp. Sta. buls.

BRADLEY, Joseph Francis, 128 N. Gill St., State College, Pa. (1941) A **Pennsylvania State Col. Extension Services, E.S.M.D.T., accountant, B.** B B.A., 1939, M.A., 1940, Pennsylvania State. D 4, 7, 9.

BRAINARD, Harry Gray, Southern Illinois Normal Univ., Carbondale, Ill. (1935) A **OPA, Rubber Sec., sr. econ., R;** Southern Illinois Normal Univ., Dept. of Econ., head, asso. prof., TR. B B.S., 1930, M.S., 1931, North Carolina; Ph.D., 1935, Illinois. C The National Labor Board, 1933-34. D 17, 1, 9.

BRAINERD, (Mrs.) Carol Paxon, R.D. 2, West Chester, Pa. (1936) A **U. S. Bur. of Labor Statis., tech. adviser, RA.** B A.B., 1926, Swarthmore; A.M., 1928, Radcliffe; grad. work, Pennsylvania. D 4, 19, 17. E Nonfederal governmental employment and pay rolls. F Joint author, The prison problem in the District of Columbia (Prison Ind. Reorg. Admin., 1938).

BRAND, Charles John, 616 Investment Bldg., Washington, D.C. (1914) A Nat. Fertilizer Asso., exec. secy. and treas. B B.A., 1902, Minnesota. D 15, 12, 4. G WSI.

BRANDENBURG, Samuel Jacob, Clark Univ., Worcester, Mass. (1912) A Clark Univ., prof. of econ., T. B A.B., 1904, Miami Univ.; Ph.M., 1909, Chicago; Ph.D., 1922, Wisconsin. C English writings on land and agricultural economics prior to Adam Smith. D 3, 2, 16. G WSE.

BRANDIS, R(oland) Buford, Jr., Federal Reserve Bank of Atlanta, Atlanta, Ga. (1940) A Fed. Res. Bank of Atlanta, Dept. of Res. and Statis., asst. mgr., RA. B B.A., 1937, Richmond; M.A., 1939, Duke; M.P.A., 1941, Harvard. D 10, 8, 6. E British war economy, Sept., 1939-Sept., 1941 (doctoral dissertation).

BRATT, Elmer Clark, Lehigh Univ., Bethlehem, Pa. (1928) A Lehigh Univ., prof. of econ., T. B A.B., 1925, A.M., 1926, Nebraska; Ph.D., 1935, Wisconsin. C The forecasting of long-time trends applied to steel production. D 5, 4, 1. F Business cycles and forecasting (R. D. Irwin, 1940); This unbalanced world (Harper, 1940); "Long-time trend of the steel industry," The Annalist, Dec. 25, 1936. G S.

BRATTER, Herbert Max, 3000 39th St., N.W., Washington, D.C. (1935) A Research; writing. D 8, 7, 6. F Silver market dictionary (Commodity Exchange, Inc.); Should we turn to silver? (Univ. of Chicago Press); "The silver episode," J.P.E., 1938. G S.

BRAUNTHAL, Alfred, 48-02 43rd St., Woodside, N.Y. (1939) A United Hatters, Cap and Millinery Workers Int. Union, res. dir., R. B Ph.D., 1920, Univ. of Vienna. C Ethics and the problem of force (written in German). D 17, 18, 6. E History of the hat workers; American labor in politics. F "The new economic policy in Belgium," Int. Labor Rev., June, 1936; "Types of adjustment in relation to types of economic structure," Feb., 1935, "The split in the American trade union movement," Feb., 1939, Soc. Res.

BRAVERMAN, Nathan N., 141 W. Jackson Blvd., Room 1200, Chicago, Ill. (1941)

BRAY, William Harry, 618 Stewart Ave., Ithaca, N.Y. (1940) A **Cornell Univ., instr., T; American Economic Review, ed. asst.** B A.B., 1938, M.A., 1939, Oberlin. D 10, 9, 17. E Regulatory activities of Ohio Pub. Util. Com. (doctoral dissertation); industrial self-government in Britain, 1920 to date (with Ben W. Lewis).

BRECHT, Robert Paul, Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1941) A Univ. of Pennsylvania, prof. of ind., T. B B.S., 1922, A.M., 1925, Ph.D., 1931, Pennsylvania. C Production organization—a study of the relation of functionalization and co-ordination to size and nature of business. D 11, 17, 4. F Co-author: Upholstery weaving industry (Univ. of Pennsylvania Press, 1932); Management of an enterprise (1935), Practical office management (1937) (Prentice-Hall).

BRECKENRIDGE, Walter Nelson, Box 143, Waterville, Me. (1929) A Colby Col., asso. prof. of

econ., T. **B** B.S., 1926, M.A., 1928, Tufts. **D** 1, 14, 10. **G** S.

BRECKINRIDGE, Frank Prevost, 134 S. La Salle St., Chicago, Ill. (1935) **A** Breckinridge and Co., pres., B. **B** Ph.B., 1919, Chicago; M.A., 1920, Columbia; grad. work, 1920-23, Harvard Law School. **D** 5, 9. **F** "Constitutionality of federal branch bank legislation," Apr., 1925, "The family trust," Apr., 1934, Ill. Law Rev.

BREMER, C. Daniel, 4 E. 94th St., New York City. (1930) **A WPB, prin. bus. anal., RB. B** B.S., 1915, Col. for Econ. and Lit.; Ph.D., 1935, Columbia. **C** American bank failures (Columbia Univ. Press, 1935). **D** 7, 4, 8. **F** Contributor and co-author, Big business: its growth and its place, How profitable is big business? (Twentieth Cent. Fund, 1937).

BRETHOUWER, Melvin William, 4117 Davis Pl., N.W., Washington, D.C. (1936) **A WPB, survey adviser, A.**; FDIC, econ., R. **B** B.A., 1927, Carroll; M.A., 1928, Wisconsin; grad. work, 1930-34, Chicago. **D** 9, 6, 7.

BREWSTER, Maurice R., Georgia Tech., Atlanta, Ga. (1939)

BREYER, Ralph Frederick, Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1921) **A** Univ. of Pennsylvania, Wharton School, asso. prof. of market., TR. **B** B.S., 1920, M.A., 1923, Ph.D., 1925, Pennsylvania. **C** Agency contracts in export trade. D 12, 19, 10. E Comparative costs of handling packaged and bulk products. **F** Commodity marketing (McGraw-Hill, 1930); Marketing institution (McGraw-Hill, 1934).

BRIDENSTINE, Merwyn Graydon, Butler Univ., Indianapolis, Ind. (1930) **A** Butler Univ., prof. of econ., T. **B** B.S., 1924, M.A., 1927, Ph.D., 1929, Iowa. **C** Some recent developments in railroad consolidation (Univ. of Iowa, Doctoral Dissertations, Abstracts and Ref., Vol. I). **D** 14, 12, 1. **G** S.

BRIDGMAN, Howard Allen, Connecticut Col., New London, Conn. (1941) A Connecticut Col., instr., T. **B** A.B., 1933, Amherst; A.M., 1941, Harvard. **D** 17, 19, 3. E Theory of consumption; integration of consumption, demand, and utility thought from Malthus to the present; labor supply and labor potential (doctoral dissertation).

BRIEFS, Goetz Antony, 4 Kenilworth Dr., Chevy Chase, Washington, D.C. (1938)

BRIGGS, Leland Lawrence, 13 Bay View St., Burlington, Vt. (1925) **A** Univ. of Vermont, asso. prof. of econ., T. **B** A.B., 1923, A.M., 1924, South Dakota; M.B.A., 1927, Northwestern. **D** 4, 9, 1. **E** Legal aspects of dividends.

BRIGGS, Robert Peter, Univ. of Michigan, Econ. Dept., Ann Arbor, Mich. (1928)

BRIGGS, Royal Jay, South Dakota State Col., Brookings, S.D. (1935) **A** South Dakota State Col., asst. prof., TR. **B** B.S., 1931, Knox; M.A., 1933, Illinois. **D** 6, 1. **E** Direct and indirect taxation in Mo. fiscal system (doctoral dissertation). **F** "Survey of Missouri income tax history," Nat. Tax Asso. Bul., Oct., 1936.

BRILEY, Beulah B., Florida State Col. for Women, Tallahassee, Fla. (1941)

BRIMACOMBE, Stuart Homer, 2970 Sheridan Rd., Chicago, Ill. (1939) **A** Swift and Co., purchasing agent, B. **B** B.S.C., 1941, Northwestern. **D** 11, 12, 5. **E** Industrial purchasing policies.

BRISCO, Norris A., New York Univ., Washington Sq., New York City. (1906)

BRISSENDEN, Paul Frederick, Columbia Univ., New York City. (1921) **A WPB, Purch. Div., Clothing Advisory Com., member;** Columbia Univ., asso. prof. of econ., TR. **B** A.B., 1908, Denver; M.A., 1912, California; Ph.D., 1917, Columbia. **C** History of the I.W.W. (Longmans, 2nd ed., 1920). **D** 17, 18, 10. **F** Earnings of factory workers, 1899-1927 (U. S. Census Mono. No. 10, 1929); "Collective bargaining provisions of the Recovery Act," in Economic essays in honor of Wesley Clair Mitchell (Columbia Univ. Press, 1935); "A.F. of L. v. C.I.O.," Amer. Scholar, 1937. **G** S.

BROCK, Leslie Van Horn, 164 1st Ave., Waynesburg, Pa. (1936) **A** Waynesburg Col., prof. of hist., econ., and gov., T. **B** B.S., 1928, Waynesburg; A.M., 1932, Ph.D., 1941, Michigan. **C** The currency of the American colonies, 1700-64: a study in colonial finance and imperial relations. **D** 2, 7, 1. **E** Currency of American colonies, 1700-75.

BRODIE, Henry, 329 16th St., N.E., Washington, D.C. (1941) **A Office of Strategic Serv., econ., R;** T. **B** B.S., 1937, M.A., 1940, New York. **D** 6, 10, 8. **E** Wartime selective price control in Canada. **F** Canadian wartime control of industry (with Jules Backman) (Contemp. Law Pamph., July, 1942); The breakdown of inter-Allied economic collaboration in 1919 (with K. Kapp) (Nat. Plan. Asso., pamph., Sept., 1941).

BRONFENBRENNER, Martin, U. S. Treas., Foreign Funds Control, 1610 Park Rd., N.W., Washington, D.C. (1938) **A U. S. Treas., for. funds control, prin. com. specialist, RA. B** A.B., 1934, Washington Univ.; Ph.D., 1939, Chicago. **C** Monetary theory and general equilibrium. **D** 5, 6, 4. **F** "Theory of collective bargaining," Q.J.E., 1939; "Cross-section studies in the Cobb-Douglas function," J.P.E., 1939; "Economics of taxation of public securities," Illinois Law Rev., 1940.

BROOKS, Benjamin Franklin, U. S. Civil Service Com., Washington, D.C. (1939) **A U. S. Civil Service Com., sr. review and negotiations officer, A;** Butler Univ., prof. of econ., T. **B** A.B., 1923, Puget Sound; A.M., 1932, Univ. of Washington; Ph.D., 1939, Chicago. **C** History of monetary theory in the United States before 1860. **D** 7, 6, 1. **G** S.

BROOKS, Robert Preston, Univ. of Georgia, Col. of Bus. Admin., Athens, Ga. (1920) **A** Univ. of Georgia, Col. of Bus. Admin., dean, TA. **B** A.B., 1904, Georgia; A.B., 1907, Oxford; Ph.D., 1912, Wisconsin. **C** Agrarian revolution in Georgia, 1865-1912 (Univ. of Wisconsin Hist. Ser., 1914). **D** 6, 7, 2. **F** "Correspondence addressed to John C. Calhoun, 1837-49," Amer. Hist. Asso. Ann. Report, 1929; Independence movement in India (Kahn Found., 1931); Industrialization of the South (Univ. of Georgia Bur. of Bus. Res., Study No. 1, 1929). **G** WS.

BROSSARD, Edgar Bernard, U. S. Tariff Com., 8th and E Sts., N.W., Washington, D.C. (1937) **A** U. S. Tariff Com., member, R.A. **B** B.S., 1911, Utah State Agric. Col.; M.S., 1917, Ph.D., 1920, Minnesota. **C** Some types of irrigation farm in Utah (Utah Exp. Sta. Bul. No. 177, 1920). **D** 8, 10, 15. **E** Vital industrial installations of the Western Hemisphere; strategic, critical, and surveillance materials for war purposes; industrial bombing objectives in Japanese controlled areas. **F** International trade of the United States and the twenty Latin American countries (U. S. Tariff Com., 1940); Latin America as a source of strategic and critical materials (U. S. Tariff Com., 1941). **G** WSI.

BROWN, Bonnar, Bd. of Gov. of Fed. Res. System, Washington, D.C. (1938) **A** Fed. Res. System, Div. of Sec. Loans, spec. asst., RA. **B** A.B., 1925, Illinois; LL.B., 1931, Kent Col. of Law, Chicago; M.A., 1934, Ph.D., 1937, Stanford. **C** Regulation of security loans in the United States with special reference to the period 1934-36. **D** 5, 7, 9. **G** S.

BROWN, Cecil Kenneth, Davidson, N.C. (1928) **A** Davidson Col., dean of faculty, prof. of econ., TA. **B** A.B., 1921, Davidson; M.A., 1923, Ph.D., 1927, North Carolina. **C** A state movement in railroad development: North Carolina's first effort to establish an East-West trunk line (Univ. of North Carolina Press, 1928). **D** 7, 14, 1. **F** The state highway system of North Carolina (Univ. of North Carolina Press, 1931); Introduction to economics (American Book, 1941). **G** S.

BROWN, Courtney C., 3208 44th St., N.W., Washington, D.C. (1935) **A** Dept. of State, Div. of Defense Materials, asst. chief, A. **B** B.S., 1926, Dartmouth; Ph.D., 1940, Columbia. **C** Liquidity and instability (New York, 1940).

BROWN, Douglass Vincent, 15 Griggs Ter., Brookline, Mass. (1932) **A** M.I.T., asso. prof., TR. **B** A.B., 1925, A.M., 1926, Ph.D., 1932, Harvard. **C** Family allowances. **D** 17, 11, 10. **E** Wage policies in industry. **F** Co-author, Economics of recovery program (McGraw-Hill, 1934); Industrial wage rates, labor costs and price policies (TNEC Mono.,

1941); "Family allowances in New South Wales," Q.J.E., 1928.

BROWN, Elmer Jay, Univ. of Arizona, Tucson, Ariz. (1911) **A** Univ. of Arizona, dir., TA. **B** B.S., 1909, Greenville Col.; M.A., 1909, Ph.D., 1911, Illinois. **C** Public domain in its economic aspect. **D** 11, 7, 17. **E** Business organization and management. **F** "Rationalization of industry," Proceedings, Pacific Coast Econ. Asso., 1933. **G** SE.

BROWN, Emily Clark, Vassar Col., Poughkeepsie, N.Y. (1927) **A** Vassar Col., prof., T. **B** B.A., 1917, Carleton; M.A., 1923, Ph.D., 1927, Chicago. **C** Book and job printing in Chicago: a study of organizations of employers and their relations with labor (Univ. of Chicago Press, 1931). **D** 17, 3, 18. **E** Labor relations in printing industry, for Twentieth Century Fund collective bargaining study; company unionism in labor history. **F** "The new collective bargaining in mass production," J.P.E., Feb., 1931; "The employer unit in NLRB decisions," J.P.E., June, 1942. **G** S.

BROWN, George Hay, Univ. of Chicago, Chicago, Ill. (1940) **A** Univ. of Chicago, asso. prof. and Bus. Prob. Bur. dir., T. **B** A.B., 1929, Oberlin; M.B.A., 1931, Harvard. **D** 12, 8, 1. **E** International economic position of New Zealand. **F** "Federal taxation of chain stores," Jour. of Bus., 1940.

BROWN, George Thomas, Catholic Univ. of Amer., Washington, D.C. (1935)

BROWN, Harry Gunnison, 403 S. Garth Ave., Columbia, Mo. (1909) **A** Univ. of Missouri, prof. **B** A.B., 1904, L.H.D., 1936, Williams; Ph.D., 1909, Yale. **C** Some aspects of railroad combination. **D** 6, 1, 5. **F** Economics of taxation (Holt, 1924; reprinted by Lucas, 1938); "The incidence of a general output or a general sales tax," J.P.E., 1939; Basic principles of economics (Lucas, 1942). **G** WS.

BROWN, J(ames) Douglas, 148 Mercer St., Princeton, N.J. (1925) **A U. S. War Dept., consultant;** Princeton Univ., Ind. Rela. Sec., dir., prof. of econ., TR. **B** A.B., 1920, A.M., 1921, Ph.D., 1928, Princeton. **C** The history and problems of collective bargaining by railway maintenance-of-way employees. **D** 17, 18, 3. **E** Problems in the effective use of man power in war production; war and postwar problems of worker security. **F** Co-author, Labor banking movement in the United States (Indus. Rela. Sec., 1928); author, joint author, or editor of reports of Indus. Rela. Sec., Princeton Univ., since 1926. **G** WS.

***BROWN, Lathrop,** Saddle Rock Ranch, Big Sur, Calif. (1921)

BROWN, Leo Cyril, Regis Col., Denver, Colo. (1940) **A** Regis Col., asst. prof., T. **B** A.M., 1927, S.T.L., 1935, St. Louis; Ph.D., 1940, Harvard. **C** Problems and policies of the labor union in leather industry. **D** 17, 1, 3. **E** Unions in leather industry.

BROWN, Lyndon Osmond, Northwestern Univ., School of Com., Evanston, Ill. (1928) **A** Northwestern Univ., prof. of market. and adv.; Lord and Thomas, vice-pres.; TRAB. **B** B.A., 1924, Carleton; M.B.A., 1930, Ph.D., 1935, Northwestern. **C** Quantitative market analysis methods. **D** 12, 19, 4. **E** Effects of war on markets, advertising, media, and merchandising. **F** Market research and analysis (Ronald Press, 1937); "Quantitative market analysis," Harvard Bus. Rev., Winter, 1935, Spring, Summer, 1936. **G** WS.

BROWN, Pembroke Holcomb, Univ. of Illinois, 109 Commerce Bldg., Urbana, Ill. (1917) **A** Univ. of Illinois, prof. of econ., T. **B** A.B., 1915, A.M., 1917, Ph.D., 1923, Illinois. **C** The expansion of corporations through the reinvestment of earnings. **D** 9, 1, 4. **G** S.

BROWN, Philip Meader, 3 Page St., Brunswick, Me. (1925) **A** Bowdoin Col., asst. prof., T. **B** A.B., 1922, Brown; A.M., 1925, Stanford; Ph.D., 1931, Harvard. **C** Bankers' acceptances and the discount market. **D** 6, 4, 8. **G** S.

BROWN, Theodore Henry, 25 Meadow Way, Cambridge, Mass. (1921)

BROWN, Weir M., 2014 N. Upton St., Arlington, Va. (1941) **A War Dept., Army Air Forces, econ. anal., RA. B** A.B., 1936, Oberlin; A.M., 1938, Ph.D., 1941, Brown. **C** An examination of the theoretical foundations of the doctrine of economic stagnation. **D** 17, 5, 16. **F** "Some effects of a minimum wage upon the economy as a whole," A.E.R., Mar., 1940.

BROWN, William Adams, Jr., Brown Univ., Dept. of Economics, Providence, R.I. (1926) **A League of Nations, Econ. and Fin. Sec., R;** Brown Univ., Eastman prof. of pol. econ., T. **B** A.B., 1917, Yale; Ph.D., 1929, Columbia. **C** England and the new gold standard 1919-26 (P. S. King, London, 1929). **D** 8, 7, 6. **F** International gold standard reinterpreted, 1914-34 (Nat. Bur. of Econ. Res., 1940).

BROWNE, Arthur Earl, 17 Tauxemont, R.F.D. 1, Alexandria, Va. (1937)

BROWNE, E(ppes) Wayles, Jr., 125 S. Fenwick St., Arlington, Va. (1941)

BROWNE, (Mrs.) Martha Steffy, 3215 Netherland Ave., Riverdale, N.Y. (1941) **A** Columbia, grad. work, R. **B** Dr. rer. pol., 1921, Univ. of Vienna. **D** Anweisungstheorie des geldes. **D** 8, 4, 7. **E** Postwar credit reconstruction; European grain trade monopolies and postwar trade organizations. **F** "Die doppelnote," Schriften des Vereins f. Sozialpolitik, 1923; Theorie der Staatlichen Wirtschaftspolitik (Wiener Staatswissensch. Studien, 1929).

BROZEN, Yale, 1006 N. La Salle St., Chicago, Ill. (1941) **A** Univ. of Florida, asst. prof., TR. **B** A.B., 1939, Chicago. **D** 1, 5, 7. **E** Some economic aspects of technological change (doctoral dissertation); reformulation of acceleration theory; sources of deflationary pressure in the U.S., especially in relation to their control in postwar planning.

BRUERE, Henry, Bowery Savings Bank, 110 E. 42nd St., New York City. (1934)

BRUMBAUGH, Martin Allen, Univ. of Buffalo, Bur. of Bus. and Soc. Res., Buffalo, N.Y. (1930) **A** Univ. of Buffalo, prof., T. **B** A.B., 1918, Juniata; A.M., 1921, Ph.D., 1926, Pennsylvania. **C** Direct method of determining cyclical fluctuations of economic data (Prentice-Hall, 1926). **D** 4, 6, 10. **F** Business statistics (with Kellogg) (R. D. Irwin, 1941); Study problems in business statistics (with Riegel) (American Book, 1935); Analysis of production of worsted sales yarn (with Williams and Davis) (Univ. of Pennsylvania Press, 1929). **G** S.

BRUSH, Waite Smith, 4 Irving Pl., New York City. (1940) **A** Consolidated Edison Co. of N.Y., Inc., div. engr., RA. **B** E.E., 1921, Rensselaer Poly. Inst.; M.B.A., 1935, New York. **D** 5, 14, 10. **E** Electric energy production and consumption as measures of general business activity (national, regional, local). **F** Co-author: "Forecasting the revival phase of kilowatt-hour consumption," Dec., 1933, "What will inflation do to 1934 kilwatt-hour?" Feb. 3, 1934, Elec. World.

BRYAN, Leslie Aulls, 211 Standish Dr., Syracuse, N.Y. (1929) **A Nat. Res. Plan. Bd., consultant, R;** Syracuse Univ., prof. of transp. and bus. law, T. **B** B.S., 1923, M.S., 1924, LL.B., 1939, Syracuse; Ph.D., 1930, American. **C** Incidence of freight rates. **D** 14, 16, 10. **F** Aerial transportation (Anderson, 1925); Industrial traffic management (McGraw-Hill, 1929); Principles of water transportation (Ronald Press, 1939). **G** E.

BRYAN, Robert Fessler, 233 N. Thomas St., Arlington, Va. (1936) **A OPA, Rubber Price Br., asso. price exec., A. B** A.B., 1934, Oberlin; C. Trans., 1935, Ph.D., 1939, Yale. **C** Financial policies of the electric bond and share system. **D** 5, 9, 10. **F** "The rate base as an earnings base," Q.J.E., Feb., 1938.

BRYANT, Edward Sohier, Harvard Club, Boston, Mass. (1912)

BRYANT, Lyle C., 1602 N. McKinley Rd., Arlington, Va. (1935) **A Nat. Hous. Agency, econ., R;** Indiana Univ., School of Bus., T. **B** A.B., 1928, Beloit. **D** 16, 10, 2. **E** Organization of occupancy in war housing program; relation of the gas industry to the community in Chicago prior to the establishment of the State Pub. Util. Com. (doctoral dissertation). **F** "Organization of occupancy as sound approach to real estate manage-

ment," Jour. of Land and Pub. Util. Econ., Nov., 1941, ff.

BRYCE, Robert B., 372 Driveway, Ottawa, Canada. (1934)

BUCHAN, Leslie James, Tulane Univ., New Orleans, La. (1940) **A** Tulane Univ., Col. of Com. and Bus. Admin., dean. TA. **B** B.S., 1922, M.S., 1924, Illinois; C.P.A., 1924, Illinois, 1931, Louisiana. **D** 4, 11, 7. **E** A critical analysis of recent formulations of accounting principles. **G** W.

BUCHANAN, Allen, 8429 Woodcliff Ct., Silver Spring, Md. (1936)

BUCHANAN, Daniel Houston, Univ. of North Carolina, Chapel Hill, N.C. (1929) **A** Univ. of North Carolina, prof., T. **B** A.B., 1911, Colorado Col.; D.S. (Econ.), 1928, Keiogijuku, Japan; Ph.D., 1931, Harvard. **C** Development of capitalistic enterprise in India (Macmillan, 1934). **D** 2, 3. **E** Economic development of modern Japan. **F** "The rural economy of Japan," Q.J.E., 1923; "The historical approach to rent and price theory," Economica, 1929. **G** S.

BUCHANAN, Frank, Peoples Bank Bldg., Room 605, McKeesport, Pa. (1935) **A** City of McKeesport, mayor. **B** B.S., 1925, Pittsburgh.

BUCHANAN, Jim McGill, Cincpac Staff, c/o Postmaster, San Francisco, Calif. (1942) **A U. S. Naval Reserve, ensign. B** B.S., 1940, Middle Tennessee State Col.; M.A., 1941, Tennessee. **D** 6, 3, 1.

BUCHANAN, Norman Sharpe, Univ. of California, Dept. of Econ., Berkeley, Calif. (1930) **A OPA, regional price exec., San Francisco, A;** Univ. of California, asso. prof. of econ., TR. **B** B.A., 1927, Toronto; M.A., 1929, Ph.D., 1931, Cornell. **C** The electric bond and share company: a case study of a public utility holding company. **D** 5, 1, 9. **F** The economics of corporate enterprise (Holt, 1940); "Toward a theory of fluctuations in business profits," A.E.R., Dec., 1941; "Anticipations and industrial investment decisions," A.E.R., Mar. Sup., 1942. **G** S.

BUCK, Norman Sydney, Yale Univ., New Haven, Conn. (1920) **A** Yale Univ., prof. of econ., dean of freshmen, TA. **B** B.A., 1913, Ph.D., 1922, Yale; M.A., 1916, Syrian Protestant Col., Lebanon. **C** Anglo-American trade, 1800-50 (Yale Univ. Press). **D** 8. **F** Elementary economics (with Fairchild and Furniss) (Macmillan, 4th ed., 1939); Economics (with Fairchild and Furniss) (Macmillan, 2nd ed., 1940). **G** S.

BUCKLEY, Louis Francis, 4481 MacArthur Blvd., Washington, D.C. (1939) **A** Soc. Sec. Bd., Legis. Service Unit, chief, A. **B** A.B., 1928, M.A., 1930, Notre Dame. **D** 18, 17, 1.

BUCKNAM, Roland Franklin, 159 S. Allen St., Albany, N.Y. (1940) **A** N. Y. State Pub. Service Com., prin. rates exam., A. **B** B.S., 1914, Ph.D., 1929, Cornell. **C** Farm electrification in New York State (N. Y. State Col. of Agric., Bul. 496, 1929). **D** 14, 10, 15.

BUDD, Thomas Allibone, Univ. of Pennsylvania, Logan Hall, Philadelphia, Pa. (1925) **A** Univ. of Pennsylvania, Wharton School, vice-dean, prof. of fin., TA. **B** B.S., 1912, A.M., 1923, Pennsylvania. **D** 9, 4, 7.

BUECHEL, Frederick Anthony, 2304½ Trinity, Austin, Tex. (1921) **A** Univ. of Texas, res. econ., asst. dir., ed., Tex. Bus. Rev., RA. **B** Ph.D., 1922, Wisconsin. **C** The relation between rents and agricultural land values in theory and in practice (Tex. Agric. Exp. Sta. Bul. No. 318). **D** 19, 4. **E** Statistical and graphic summary of dairy industry with special reference to Tex.; family expenditures in selected Tex. localities; income in Tex. from 1929 to date, by counties. **F** Commerce of agriculture (Wiley, 1926); Wholesale marketing of live poultry in New York (U. S. Bur. of Agric. Econ., 1929).

BUECHEL, Henry Theodore, Univ. of Washington, Col. of Econ. and Bus., Seattle, Wash. (1942) **A** Univ. of Washington, instr., T. **B** B.A., 1929, M.A., 1936, Washington State Col. **D** 17, 6, 7. **E** Trade union institutions under the impact of war in Australia and New Zealand (doctoral dissertation, Wisconsin).

BUEHLER, Alfred G., Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1925) **A** Univ. of Pennsylvania, Wharton School, prof. of pub. fin., T. **B** A.B., 1922, Heidelberg; A.M., 1923, Ph.D., 1930, Yale. **C** The general sales tax (Business Bourse, 1932). **D** 6, 10, 1. **E** Principles of taxation (book). **F** The undistributed profits tax (McGraw-Hill, 1937); Public finance (McGraw-Hill, 1940). **G** S.

BULLOCK, Roy Johnson, Johns Hopkins Univ., Baltimore, Md. (1930) **A OPA, asso. price exec., A;** Johns Hopkins Univ., School of Bus. Econ., dir., T. **B** A.B., 1925, Doane; M.B.A., 1927, Harvard; Ph.D., 1933, Johns Hopkins. **C** A history of the chain grocery business in the United States. **D** 11, 12, 1. **E** Marketing roasted coffee. **F** "Early history of the Great Atlantic and Pacific Tea Company," Harvard Bus. Rev., Apr., 1933; "History of the Great Atlantic and Pacific Tea Company after 1878," Harvard Bus. Rev., Oct., 1933. **G** S.

BULLOCK, Theodore T., 2420 R., Lincoln, Neb. (1913)

BUND, Henry, 69-10 Yellowstone Blvd., Forest Hills, N.Y. (1941) **A** Res. Inst. of Amer., Price Control Div., dir., R; Col. of the City of New York, lecturer, T; Brooklyn Col., New York Univ., instr., T. **B** C.P.A., 1935, Ph.D. 1937, Univ. of Econ., Vienna; LL.B., 1936, Law Univ. of Vienna. **C** Investment trusts (Vienna and Leipzig, 1938). **D** 10, 11, 4. **E** Price control (with J. Hirsch) (to be pub. by Harper, 1942).

BUNTING, Frederick Horner, Univ. of North Carolina, Woman's Col., Greensboro, N.C. (1940) **A** Univ. of North Carolina, Woman's Col., asso. prof., T. **B** B.A., 1927, Univ. of the South; Ph.D., 1939, North Carolina. **C** Intergovernmental relationships in the financing of relief. **D** 8, 6, 5. **E** Intergovernmental relationships in the financing of relief. **F** "The purchasing power parity theory re-examined," S.E.J., Jan., 1939. **G** S.

BURBANK, Harold Hitchings, Harvard Univ., Cambridge, Mass. (1909) **A** Harvard Univ., David A. Wells prof. of polit. econ., TRA. **B** A.B., 1909, A.M., 1910, Dartmouth; Ph.D., 1915, Harvard. **C** General property tax. **D** 6, 10, 11. **E** Early history of taxation; theory of the public economy. **G** S.

BURCHARD, John H., 3403 Lowell St., N.W., Washington, D.C. (1941) **A OPA, Gen. Prod. Price Div., Consumer Durable Goods Br., sr. admin. officer, A. B** A.B., 1934, Cornell. **D** 10, 6, 9.

BURDICK, E(dward) Douglass, Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1933) **A** Univ. of Pennsylvania, asst. prof. of statis., T. **B** B.A., 1926, M.A., 1928, Wesleyan Univ.; Ph.D., 1935, Pennsylvania. **C** Corporate interest payments, 1921-32. **D** 20, 4, 1. **F** Joint author, "The gastro-intestinal trace in hyperthyroidism," Surg., Gynecol. and Obstet., Dec., 1941. **G** S.

BURDICK, Raymond Terry, Colorado State Col. of A. and M. A., Fort Collins, Colo. (1923) **A** Colorado State Col. of A. and M. A., asso. prof., R. **B** B.S., 1912, Cornell; M.S., 1922, Colorado State Col. of A. and M. A. **D** 15, 17, 1. **E** Economics of cattle and sheep ranching in Colorado type of farming in Colorado; a new technique of field crop labor analysis (doctoral dissertation, Chicago). **F** Economics of sugar beet production in Colorado (Bul. 353, June, 1939), Possibilities for cattle income (Bul. 460, July, 1940), Landlord and tenant income in Colorado (Bul. 451, Oct., 1938) (Colo. Exp. Sta.).

BURGESS, Eugene Willard, 1711 Rhode Island Ave., N.W., Washington, D.C. (1928) **A** Gen. Mills, Inc., vice-pres., E. Div., B. **B** B.S., 1921, M.S., 1924, Lehigh; Ph.D., 1927, Univ. of Lyon. **C** La non-partisan ligue (Bibliothéque de Droit Compare de Lyon). **D** 8, 11, 9. **G** S.

BURGESS, Kenneth Farwell, Sidley, McPherson, Austin, and Burgess, 11 S. La Salle St., Chicago, Ill. (1922)

BURGESS, Robert Wilbur, Western Electric Co., 195 Broadway, New York City. (1924) **A** Western Elec. Co., chief econ., B. **B** A.B., 1908, Brown; B.A., 1910, Oxford; Ph.D. (applied math.), 1914, Cornell. **C** Uniform motion of a sphere through a viscous liquid (Amer. Jour. of Math., Jan., 1916). **D** 4, 11, 18. **E** Analysis of industrial

profits; methods of forecasting business activity and commodity prices; adaptation of the capitalistic system to changing needs. **F** Introduction to the mathematics of statistics (Houghton Mifflin, 1927); "The whole duty of the statistical forecaster," Dec., 1937, "The general structure of wholesale prices," Mar., 1931, Jour. of Amer. Statis. Asso. **G** WS.

§**BURGESS, W. Randolph,** 55 Wall St., New York City. (1924)

BURHANS, Nathaniel C., 1806 Orchard St., Alexandria, Va. (1939)

BURKE, Joseph William, P.O. Box 218, Colorado Springs, Colo. (1939) **B** B.A., 1927, LL.B., 1930, Minnesota. **D** 17, 8, 7.

BURKHEAD, Jesse V., 4205 Eastern Ave., Mt. Rainier, Md. (1939) **A** Bur. of the Budget. **B** B.A., 1938, Carleton; M.A., 1939, Ph.D., 1942, Wisconsin; M.P.A., 1942, Harvard. **C** Fiscal control of inflation. **D** 6, 14, 7. **F** "Changing incidence of public utility taxation," Jour. of Land and Pub. Util. Econ., Nov., 1939; "Double taxation and jurisdiction to tax," Nat. Tax Asso. Bul., June, 1940; asso. author, Studies in Wisconsin taxation (Univ. of Wisconsin Press, 1942).

BURNETT, (Mrs.) Esther Pelton, Bennett Junior Col., Millbrook, N.Y. (1941) **A** A.B., 1937, Stanford; M.A., 1940, Columbia. **D** 19, 8, 11. **E** A national policy of food distribution (doctoral dissertation).

BURNETT, Judson Orville, Havre, Mont. (1941) **A** Northern Montana Col., asso. prof., T. **B** B.A., 1921, M.A., 1930, Iowa; grad. work, Minnesota. **D** 1, 4, 12. **F** Operating results of manufacturing plants in Minnesota, 1926-30 (with G. Filipetti and W. C. Dachtler) (Univ. of Minnesota Press, 1932).

BURNEY, William James, 182 Langley Rd., Newton, Mass. (1941)

BURNS, Arthur Edward, 6521 32nd St., N.W., Washington, D.C. (1937) **A** George Washington Univ., adjunct prof. of econ., T; WPA, econ. adviser, R. **B** A.B., 1931, A.M., 1934, California; Ph.D., 1935, George Washington. **C** The economic significance of relief. **D** 1, 5, 6. **E** Fiscal policy in war and depression. **F** Government spending and economic expansion (with D. S. Watson) (Amer. Coun. on Pub. Affairs. 1940); "Work relief wage policies, 1930-36," FERA, Monthly Rep., June, 1936. **G** S.

BURNS, Arthur F., 370 Central Park W., New York City. (1930) **A** Rutgers Univ., prof. of econ., T; Nat. Bur. of Econ. Res., Res. Staff. member, R. **B** A.B., A.M., 1925, Ph.D., 1934, Columbia. **C** Production trends in the United States since 1870 (Nat. Bur. of Econ. Res., 1934). **D** 5, 1, 13. **E** Methods of measuring cyclical behavior; the cyclical behavior of construction work. **F** "Long cycles in residential construction," in Economic essays in honor of W. C. Mitchell (Columbia Univ. Press, 1935). **G** S.

BURNS, Arthur Robert, 3206 Q St., N.W., Washington, D.C. (1938) **A WPB, Div. of Civ. Sup., Civ. Plan. Br., chief, A;** Columbia Univ., asst. prof., TR. **B** B.Sc. (Econ.), 1920, Ph.D. (Econ.), 1926, London School of Econ. **C** Money and monetary policy in early times (Keegan Paul, London, 1927). **D** 11, 10, 2. **E** Government and the electric light and power industry (to be pub. by Twentieth Cent. Fund). **F** The economic world (with E. M. Burns) (Oxford Univ. Press, 1927); The decline of competition (Whittlesey House, 1937). **G** S.

BURNS, Eveline Mabel (Mrs. Arthur R.), 3206 Q St., N.W., Washington, D.C. (1925) **A** Nat. Res. Plan. Bd., dir. of res., RA. **B** B.Sc. (Econ.), 1920, Ph.D. (Econ.), 1926, London School of Econ. **C** Wages and the state (P. S. King and Son, London, 1926). **D** 18, 17, 1. **E** Work security and relief policies (to be pub. by Nat. Res. Plan. Bd.). **F** The economic world (with A. R. Burns) (Oxford Univ. Press, 1927); Toward social security (Whittlesey House, 1936); British unemployment programs (Com. on Soc. Sec., 1941). **G** S.

BURNS, Robert Kenneth, 1700 Prairie Ave., Chicago, Ill. (1937) **A NWLB, prin. mediation officer;** Science Research Associates, secy.-treas., dir. of res.; Univ. of Chicago, lecturer; TRB. **B** A.B., 1933, Univ. of Washington. **D** 17, 1, 3. **E** Collective bargaining and arbitration (doctoral dissertation); occupational changes in war and postwar periods. **F** Collective bargaining in the daily newspaper industry (Twentieth Cent. Fund, 1942); Military training and jobs (Sci. Res. Asso., 1941).

BURNSIDE, Malcolm, 302 Ave. C, Brooklyn, N.Y. (1941) **A U. S. Naval Res., ensign, A;** Amer. Tel. and Tel. Co., asst. fin. statis., R. **B** B.S. in Soc Sci., 1938, City of New York; M.A., 1940, Columbia. **D** 4, 11, 10.

BURNSTAN, (Arthur) Rowland, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. (1937) **A Minneapolis-Honeywell Reg. Co., Aeronautical Div., dir., RA;** Carleton Col., prof. of econ., TR. **B** B.S., 1925, A.M., 1926, Lafayette; Ph.D., 1929, Columbia; Sc.D., 1938, Chicago (Medical School). **C** Special assessments (J. B. Lyon Co., Albany). **D** 8, 14, 1. **E** Co-operatives and world peace. **G** WSI.

BURRILL, Cecil Lloyd, Standard Oil Co. of New Jersey, 30 Rockefeller Plaza, New York City. (1940) **A** Standard Oil Co. of N. J., Econ. Dept., staff econ., AB. **B** B.S., 1932, Univ. of Washington; M.B.A., 1934, D.C.S., 1938, Harvard. **C** The use of variable budgets in controlling manufacturing expense. **D** 11, 10, 4.

BURRISS, Edward Cansler, 1427 Longfellow, N.W., Washington, D.C. (1936) **A U. S. Civ. Service Com., Examining Div., review and negotiations officer, A;** Oklahoma A. and M. Col., School of Com., asst. dean, asso. prof. of econ., TRA. **B** B.S., 1924, M.S., 1927, Oklahoma A. and M. Col.; grad. work, 1931-34, Wisconsin. **D** 17, 9, 6. **E** Historical and statistical study of Oklahoma consumer credit institutions (doctoral dissertation).

BURROUGHS, Roy Judson, FHA, Vermont and K Sts., Washington, D.C. (1929) **A** FHA, regional hous. econ., R. **B** B.S., 1924, Oklahoma A. and M.; A.M., 1930, Ph.D., 1933, Michigan. **C** A study of urban real estate mortgage delinquency (Jour. of Land and Pub. Util. Econ., Nov., 1935). **D** 16, 7, 9. **E** Employment in the automobile industry in relation to dwelling unit requirements. **F** Experience of Michigan rural banks with short-term loans to farmers (with H. S. Patton) (Michigan State Col., Spec. Bul. 311, 1941). **G** S.

BURSIEK, Ralph Carl, Univ. of Cincinnati, Cincinnati, Ohio. (1935) **A** Univ. of Cincinnati, asst. prof., T. **B** Com. Eng., 1931, A.M., 1932, Cincinnati. **D** 1, 8, 4.

BURTT, Everett J., Jr., Univ. of Denver, Dept. of Econ., Denver, Colo. (1940)

***BUSH, Irving T.,** 280 Park Ave., New York City. (1911)

BUSHEY, J. Hobart, Hunter Col., 695 Park Ave., New York City. (1940) **A** Hunter Col., asso. prof., T. **B** B.A., 1924, Johns Hopkins; M.A., 1928, Ph.D., 1930, Michigan. **C** Asymptotic expressions for a certain class of definite integrals. **D** 4, 5, 18. **F** "Sur certains développements en series des polynoms orthogonaux de tchebycheff" (with J. A. Shohat), Mathematica, 1933.

BUSSING, Irvin, 14 Wall St., Room 1408, New York City. (1935) **A** Savings Banks Trust Co., dir. of res., RB. **B** A.B., 1923, M.A., 1927, Ph.D., 1935, Columbia. **C** Public utility regulation and the sliding scale (Columbia Univ. Press, 1935). **D** 9, 16, 5. **E** Mortgage and real estate policies of lending institutions.

BUTT, Louise Eisenlohr (Mrs. S. McClellan), 1908 Florida Ave., N.W., Washington, D.C. (1941) **A** U. S. Dept. of Agric., Office of For. Agric. Rela., asso. econ., R. **B** B.A., 1928, Ohio State; M.A., 1929, Radcliffe; Dr. es Sc. pol., 1934, Univ. of Geneva. **C** International narcotics control (George Allen and Unwin, 1934). **D** 8, 15, 19.

BUTT, S. McClellan, 1908 Florida Ave., N.W., Washington, D.C. (1936) **A OPA, sr. bus. econ., RA. B** A.B., 1917, A.M., 1918, Ph.D., 1932, Princeton. **C** The Greek city-state in the political philosophy of Bernard Bosanquet. **D** 10, 11, 1. **E** History of the United Shoe Machinery Corp. **G** S.

BUTT, William Edward, 538 E. Hamilton Ave.,

State College, Pa. (1922) **A** Pennsylvania State Col., prof., T. **B** B.A., 1911, M.A., 1914, Wisconsin; Ph.D., 1931, Yale. **C** A permanent tax on excess profit. **D** 1, 14, 4. **E** Income, profit, etc., in relation to time. **G** S.

BUTTENHEIM, Harold Sinley, 470 4th Ave., New York City. (1933) **A** Amer. City Magazine Corp., ed. **D** 16, 6, 10. **F** Urban planning and land policies (Nat. Res. Plan. Bd., 1939). **G** WS.

BUTTERS, J(ohn) Keith, G-22 Kirkland House, Cambridge, Mass. (1938) **A U. S. Treas. Dept., consulting expert; OEM, consulting econ.; Nat. Bur. of Econ. Res., res. asso.;** Harvard Univ., instr. **B** A.B., 1937, Chicago; A.M., 1939, Ph.D., 1941, Harvard. **C** Federal taxation of corporate profits. **D** 6, 1, 4. **E** Analysis of differences between book profit and statutory net income (Nat. Bur. of Econ. Res.); inventory profits. **F** "Discriminatory effects of annual computation of corporation income tax," Q.J.E., 1939.

BYE, Carl Rollinson, Syracuse Univ., Dept. of Econ., Syracuse, N.Y. (1934) **A** Syracuse Univ., prof. of econ., TA. **B** A.B., 1922, M.A., 1924, Ph.D., 1938, Syracuse; M.A., 1926, Tufts. **C** Developments and issues in the theory of rent (Columbia Univ. Press, 1940). **D** 19, 1, 2. **G** S.

BYE, Raymond Taylor, Moylan, Pa. (1920) **A** Univ. of Pennsylvania, prof. of econ., T. **B** A.B., 1914, Swarthmore; A.M., 1915, Harvard; Ph.D., 1918. Pennsylvania. **C** Capital punishment in the United States (Friends Central Bur., Philadelphia, 1919). **D** 1, 3, 5. **E** Two-volume general economics text. **F** Principles of economics (Crofts, 1924; Restatement, 1941); Applied economics (with W. W. Hewett) (Crofts, 1928); Getting and earning (with R. H. Blodgett) (Crofts, 1937). **G** S.

BYLAND, John R., 7639 Cornell Ave., Chicago, Ill. (1941)

BYRNE, John M., 1000 The Phelps, Cincinnati, Ohio. (1926) **A** Byrne Organization, pres. B 1908, James Millikin. **D** 11, 12, 5.

CABLE, John Ray, Washington Univ., St. Louis, Mo. (1922) **A** Washington Univ., asso. prof. of fin. and banking, TR. **B** B.A., 1913, Missouri; M.A., 1917, Chicago; Ph.D., 1923, Columbia. **C** The Bank of the State of Missouri (Columbia Studies, Vol. 102). **D** 7, 2, 9. **G** S.

CADMAN, Paul Fletcher, 22 E. 40th St., New York City. (1940) **A** Amer. Bankers Asso., econ., RA. **B** B.A., 1915, California; D. en D., 1922, Univ. of Paris. **C** Le rôle social de l'entrepreneur dans la réorganisation de l'industrie en Amérique (Marcel Giard, Paris). **D** 7, 3, 9. **E** American banking problems. **G** W.

CADY, Elwyn Loomis, 5100 Woodland Ave., Kansas City, Mo. (1931) **A OPA, sr. price anal., A;** Great Lakes Pipeline Co., traffic, B. **B** B.S. in Agric., 1921, Missouri; M.S., 1923, Ph.D., 1933, Iowa State Col. **C** Development of direct marketing of hogs in Iowa. **D** 14, 11, 5. **E** Price analysis of important commodities; postwar depression prevention. **F** "Direct marketing of hogs," Cedar Rapids Gazette, 1935; joint author, Direct marketing of hogs (U. S. Dept. of Agric., 1935); Crop insurance (Iowa State Col., 1937).

CADY, George Johnson, Northwestern Univ., Harris Hall 309, Evanston, Ill. (1927) **A** Northwestern Univ., asso. prof. of econ., TRA. **B** A.B., 1922, Franklin; A.M., 1926, Ph.D., 1929, Northwestern. **C** American wage theories prior to 1840. **D** 1, 11, 17. **E** Case studies in field of pricing as a check on theories of imperfect competition. **F** Entrepreneurial costs and price (privately pub., 1942); "The early American reaction to the theory of Malthus," J.P.E., Oct., 1931. **G** SE.

CAHILL, Marion Cotter, 340 Riverside Dr., New York City. (1931) **A** Walton High School, prin., A. **B** B.A., 1921, Vassar; Ph.D., 1932, Columbia. **C** Shorter hours: movement since the Civil War. **D** 17, 19.

CAHN, Bertram J., B. Kuppenheimer and Co., Congress and Franklin Sts., Chicago, Ill. (1935)

CAHN, Frances Triest, 3000 39th St., N.W., Washington, D.C. (1929) **A** OPA, soc. econ., RA. **B** B.A., 1928, Mills; Certif. in Soc. Work, 1929, M.A., 1930, California. **D** 18, 19, 10. **E** Use of community resources for the maintenance of living standards. **F** Incidence of delinquency in Berkeley, 1924-28 (with J. Stuart and H. Adler) (1934), Welfare activities of federal, state, and local governments in California, 1850-1934 (with H. Bary) (1936) (Univ. of California Press).

CAHOUET, Ralph H., 38 Chauncy St., Room 1311, Boston, Mass. (1942)

CAINE, Walter Eugene, 357 N. Glebe Rd., Arlington, Va. (1941) **A WPB, Negotiations Sec., Power Br., chief, RA; Fed. Power Com., Div. of Rates and Res., asst. chief, RA. B** B.S. in Bus. Admin., 1930, Buffalo; M.B.A., 1931, Northwestern. **D** 14, 10, 4. **E** Relation of government to the electric light and power industry (to be pub. by Twentieth Cent. Fund).

CALDER, Philip Raymond, 333 Medford St., Charlestown, Mass. (1934) **A** Revere Sugar Refinery, accountant, B.

CALE, Edward Graham, 6615 Fairfax Rd., Bethesda, Md. (1937) **A** U. S. State Dept., Div. of Com. Pol. and Agree., div. asst., RA. **B** B.A., 1928, Richmond; M.A., 1932, Ph.D., 1935, Virginia. **C** The gold standard in postwar Britain. **D** 8, 7, 9. **F** "A study of ineffective investment trust and precious metal mining issues under the Securities Act of 1933," Law and Contemp. Prob., Jan., 1937.

CALHOUN, Charles P., Ronald Press Co., 15 E. 26th St., New York City. (1927)

CALHOUN, Wilbur Pere, Univ. of Cincinnati, Cincinnati, Ohio. (1935) **A** Univ. of Cincinnati, TA. **B** A.B., 1913. Hiram Col.; A.M., 1914, Michigan. **D** 7, 9, 1. **G** WE.

CALKINS, Francis Joseph, Box 114, Notre Dame, Ind. (1934) **A** Univ. of Notre Dame, asst. prof., T. **B** A.B., 1932, A.M., 1933, Loyola Univ., Chicago. **D** 9, 5, 11. **E** Relations between common stock prices and corporate earnings (doctoral dissertation). **F** "Valuation in corporate reorganization," Notre Dame Lawyer, Nov., 1941. **G** S.

CALKINS, Robert D., Columbia Univ., School of Bus., New York City. (1930) **A** Columbia Univ., School of Bus., dean, TA. **B** B.S., 1925, William and Mary; M.A., 1929, Ph.D., 1933, Stanford. **C** Price leadership and interaction among major wheat futures markets (Wheat studies, Nov., 1933). **D** 11, 16, 8. **E** Industrial development of Calif. **F** "Regional development and economic welfare," Proceedings, Pacific Coast Econ. Asso., 1941; A survey of economic activities and trends in the San Francisco Bay area (Calif. State Plan. Com., 1941); "The relation between international trade and peace," in World resources and peace (Univ. of California Press, 1941). **G** WSE.

CAMERON, Roy Ernest, San Diego State Col., San Diego, Calif. (1930) **A** San Diego State Col., prof., T. **B** A.B., 1922, Ph.D., 1929, California. **C** Valuation of office buildings. **D** 7, 9, 14.

CAMITTA, Rosalie, 6238 Carpenter St., Philadelphia, Pa. (1941)

CAMP, Chester Bennett, Butler Univ., Dept. of Econ., Indianapolis, Ind. (1930)

CAMPBELL, Claude Arthur, Univ. of Oklahoma, Col. of Bus. Admin., 32 Faculty Exch., Norman, Okla. (1936) **A** Univ. of Oklahoma, asst. prof., T. **B** B.S., 1928, Middle Tennessee State Teachers Col.; M.A., 1928, George Peabody Col. for Teachers; Ph.D., 1932, Vanderbilt. **C.** The development of banking in Tennessee (Weatherford Print. Co., Tuscaloosa, 1932). **D** 7, 6, 3. **E** Reconstruction in Tenn., 1862-70. **F** Articles on branch banking in Tennessee (East Tenn. Hist. Soc., 1937, 1940).

CAMPBELL, F. Newell, 2953 McKinley St., Washington, D.C. (1938)

CAMPBELL, Henry Curry, 1400 Lake Shore Dr., Chicago, Ill. (1941)

CAMPBELL, James Andrew, Knox Col., Galesburg, Ill. (1928) **A** Knox Col., prof., TA. **B** A.B., 1901, A.M., 1906, Michigan. **D** 9, 11, 7. **G** E.

CAMPBELL, Kenneth H., Nat. Asso. of Credit Men, 1 Park Ave., New York City. (1942)

CAMPBELL, Robert Argyll, Vanderbilt Univ., Nashville, Tenn. (1908)

CANCE, Alexander Edmond, Massachusetts State Col., Amherst, Mass. (1908) **A** Massachusetts State Col., head of dept., TRA. **B** B.A., 1896,

Macalester; M.A., 1906, Ph.D., 1908, Wisconsin. **C** Land tenure in Mississippi. **D** 12, 19, 14. **F** Recent immigrants in agriculture (U. S. Immigration Com., 2 vols., 1911); contributor, U. S., Iowa, and Mass. agric. exp. sta. buls., 1914-30. **G** WS.

CANFIELD, Adelbert Jewett, 40 Inman St., Cambridge, Mass. (1918) **A** Retired.

CANFIELD, Joseph Menns, III, Swedesford Rd. and Sumneytown Pike, Gwynedd, Pa. (1941) **A** Atlantic Refining Co., rate clerk, **B. D** 14, 5, 1.

CANNING, John Bennet, Dept. of Agric., Agric. Market. Admin., Washington, D.C. (1920) **A U. S. Dept. of Agric., consultant;** Stanford Univ., prof. of econ., TR. **B** Ph.B., 1913, Ph.D., 1929, Chicago. **C** Economics of accountancy (Ronald Press, 1929). **D** 15, 19, 4. **F** "Certain erratic tendencies in accountants' income procedure," Econometrica, 1933; "Rescue programs and managed progress," Jour. of Farm Econ., 1941. **G** S.

CANON, Helen, Cornell Univ., Col. of Home Econ., Ithaca, N.Y. (1940)

CANOYER, Helen G., Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1941)

CAPLAN, Benjamin, 2831 28th St., N.W., Washington, D.C. (1935) **A OPA, prin. econ., R;** Ohio State Univ., Dept. of Econ., instr., T. **B** B.A., 1930, M.A., 1931, McGill; Ph.D., 1942, Chicago. **C** The Wicksellian school: a critical study of the development of Swedish monetary theory, 1898-1932. **D** 1, 5, 10. **F** "The premature abandonment of machinery," Rev. of Econ. Studies, Feb., 1940; "Reinvestment and the rate of interest," A.E.R., Sept., 1940; "Some Swedish stepping stones in economic thought," Canadian Jour. of Econ. and Polit. Sci., Nov., 1941.

***CAPP, Seth Bunker,** P.O. Box sub-2054, Philadelphia, Pa. (1912)

CAREY, Robert Lincoln, 15 Claremont Ave., New York City. (1931) **A** Columbia Univ., TR. **B** A.B., 1921, Univ. of Washington; M.A., 1923, California; Ph.D., 1929, Columbia. **C** Daniel Webster, as an economist. **D** 1, 2, 6. **F** Collaborator, Main currents in economic life (Harcourt-Brace, 1941). **G** S.

CARLOCK, John Edwin, 724 S. Allen St., State College, Pa. (1940) **A** Pennsylvania State Col., Bur. of Bus. Res., R. **B** B.C.S., 1934, New York. **D** 4, 7, 9. **E** Economic functions of the RFC.

CARLSON, Knute E., 5241 42nd St., N.W., Washington, D.C. (1932) **A** Pub. Roads Admin., consultant, R. **B** A.B., 1915, A.M., 1917, Nebraska; Ph.D., 1919, Pennsylvania. **C** Relations between the United States and Sweden. **D** 14, 8. **G** S.

CARLSON, Ralph Eric, P.O. Box 546, Blacksburg, Va. (1939) **A** Virginia Poly. Inst., asst. prof. of econ., T. **B** A.B., 1932, M.S., 1933, City of New York. **D** 9, 8, 19.

CARLSON, Reynold Erland, Johns Hopkins Univ., Dept. of Polit. Econ., Baltimore, Md. (1940) **A OPA, sr. econ., A;** Johns Hopkins Univ., instr., T. **B** B.S., 1936, M.A., 1937, Northwestern; Ph.D., 1942, Harvard. **C** Fiscal capacity of local government. **D** 6, 10, 1. **E** Taxation and interstate barriers to trade. **F** Land use history of Harvard forest (Harvard Univ., 1941); "Interstate barrier effects of use tax," Law and Contemp. Prob., Spring, 1941.

CARLSON, Ruth Inglof (Mrs. Edward T. Frankel), 491 State St., Albany, N.Y. (1928)

CARLSON, Valdemar, Yellow Springs, Ohio. (1936) **A** Antioch Col., prof. of econ., T. **B** A.B., 1924, Kansas; Ph.D., 1931, Harvard. **C** Associations and combinations in the American paper industry. **D** 7, 1, 6. **E** Text on theory of economic policy. **F** "Heterodoxy in monopolistic competition," Jour. of Soc. Phil., July, 1937; "Textbooks in economic principles," Educa., Feb., 1939. **G** S.

CARLTON, Frank Tracy, Case School of Applied Science, Cleveland, Ohio. (1906) **A** Case School of Applied Science, prof., T. **B** B.S., 1895, M.E., 1899, Case School; M.A., 1905, Ph.D., 1906, Wisconsin; LL.D., 1932, Albion. **C** Economic influences upon educational progress in the United States, 1820-50 (Univ. of Wisconsin). **D** 17, 10, 5. **E** Effects of technological progress. **F** Organized labor in American history (Appleton, 1920); Labor problems (Heath, 1933); "The business managers take over," Dynamic Amer., Jan., 1942. **G** WS.

CARMAN, William Warren, Jr., U. S. Bur. of For. and Dom. Com., Washington, D.C. (1941)

CARMICHAEL, Dan J., Boston Col., School of Bus. Admin., Chestnut Hill, Mass. (1941) **A** Boston, Col., Market. Dept., head, T. **B** B.C.S., 1932, Drake; M.B.A., 1934, Harvard. **D** 12, 4, 11.

CARMICHAEL, Fitzhugh Lee, Univ. of Denver, Bur. of Bus. and Soc. Res., Denver, Colo. (1940)

CARNEY, James Joseph, Jr., 915 Monterey St., Coral Gables, Fla. (1941) **A War Dept.;** Univ. of Miami, asst. prof., T. **B** A.B., 1931, A.M., 1933, Harvard; Ph.D., 1938, Duke. **C** Some aspects of Spanish colonial policy. **D** 7, 8, 1. **F** "100% reserves," Tarheel Banker, Sept., 1941; Legal theory of forced labor in the Spanish colonies (Univ. of Miami Hispanic-Amer. Studies, March, 1942).

CAROTHERS, Neil, Lehigh Univ., Bethlehem, Pa. (1927) **A** Lehigh Univ., dean, prof., TA. **B** B.A., 1905, Arkansas; Diploma in Econ., 1907, Oxford; Ph.D., 1916, Princeton. **C** History of fractional money in the United States. **D** 7. **F** Fractional money (Wiley, 1931); Silver in America (Asso. of Reserve City Bankers, 1936); Experimenting with our money (Farrar and Rinehart, 1936). **G** WS.

CARPENTER, Cecil Clayton, Univ. of Kentucky, Lexington, Ky. (1929) **A** Univ. of Kentucky, prof. of econ., TR. **B** B.S., 1926, Kentucky; M.S., 1927, Ph.D., 1932, Illinois. **C** Monetary theory in England during the bank restriction period, 1797-1821. **D** 7, 1, 9. **F** State bank failures in Kentucky (Bur. of Bus. Res., Univ. of Kentucky, 1939); "The specie resumption of 1821," S.E.J., 1938. **G** S.

CARPENTER, Otto Frank, 2018 Interior Bldg.-N., Washington, D.C. (1939) **A** Nat. Mediation Bd., mediator. **B** B.S., B.A., 1913, Ohio Northern; M.A., 1917, Wisconsin. **D** 17, 10, 2. **E** Government in industry (doctoral dissertation); history of organized labor in the U. S. **F** Chicago's traction situation (Liberal Club of Chicago, 1930); Experiments in industrial democracy (McGraw-Hill, 1928); "Need for enlightened leadership in industry," Ind. Manage., 1924.

CARPENTER, Raymond Van Arsdale, 66 Park Ave., New York City. (1917)

CARPENTER, William Morgan, 272 N. Mountain Ave., Upper Montclair, N.J. (1926)

CARR, Hobart C., Wayne Univ., Dept. of Econ., Detroit, Mich. (1939)

CARR, James A., 1304 Central Nat. Bank Bldg., St. Louis, Mo. (1911)

CARROLL, Dudley De Witt, Chapel Hill, N.C. (1916) **A** Univ. of North Carolina, School of Com., dean; Dept. of Econ. and Com., head, prof., TA. **B** A.B., 1907, Guilford; AB., 1908, Haverford; A.M., 1916, Columbia. **D** 3, 6, 10. **G** WSE.

CARROLL, John Murray, 36 Ware St., Lewiston, Me. (1913). **A** Bates Col., prof. of econ., T. **B** A.B., 1909, Bates; A.M., 1914, Harvard. **D** 1, 10, 6. **G** S.

CARROLL, Mollie Ray, McLean, Va. (1922) **A** U. S. Dept. of Labor, ind. econ. **B** Ph.B., 1911, M.A., 1915, Ph.D., 1920, Chicago. **C** Labor and politics (Houghton Mifflin, 1923). **D** 17, 18, 3. **E** Labor and management participation with government through advisory committees. **F** Unemployment insurance in Germany (2nd ed., 1930). Unemployment insurance in Austria (1932) (Brookings); What is collective bargaining? (Longmans, Green, 1939). **G** WSE.

CARSON, William Joseph, Loudon Woods, Rye, N.Y. (1924) **A** Nat. Bur. of Econ. Res., exec. dir.; Univ. of Pennsylvania, asso. prof.; TRA. **B** B.S.C., 1921, Georgia; M.A., 1922, Columbia; Ph.D., 1928, Brookings. **C** Banking and credit in Richmond Federal Reserve District. **D** 7, 9, 6. **F** "Banking and credit in the South," The Annals, 1931; "Financing production and distribution of cotton," Fed. Res. Bul., 1923; Savings and employee savings plans (Univ. of Pennsylvania Press, 1931). **G** S.

CARTER, Lucian Hugh, Univ. of Kentucky, Col. of Com., Lexington, Ky. (1929) **A** Univ. of Kentucky, prof. of econ., T. **B** A.B., 1920, Emory and Henry; M.A., 1927, Ph.D., 1930, Virginia. **C**

A history of federal attempts to settle railway labor disputes (privately pub.). **D** 17, 18, 1. **E** Labor economics and labor problems. **G** S.

CARTER, William Ambrose, Elm St., Norwich, Vt. (1928) **A** Dartmouth Col., prof., T. **B** A.B., 1920, Dartmouth; M.A., 1928, Missouri. **D** 11, 10, 7. **E** Collaborating with Harry L. Purdy and Martin L. Lindahl on book on the corporation, industrial monopoly, and public regulation (to be pub. in 1942). **G** S.

CARTER, William Harrison, Jr., Univ. of Connecticut, Storrs, Conn. (1930) **A** Univ. of Connecticut, prof., T. **B** B.A., 1926, Amherst; M.A., 1930, Ph.D., 1932, Harvard. **C** American branch plants in Canada. **D** 8, 7, 16. **F** Economic geography (with R. E. Dodge) (Odyssey Press, 1939). **G** S.

CARTINHOUR, Gaines Thomson, Forest Hills Inn, Continental Ave., Forest Hills, N.Y. (1938) **A** Hunter Col., asst. prof. of econ., T. **B** B.S., 1924, Illinois; M.B.A., 1927, Harvard; Ph.D., 1933, New York. **C** Banking concentration in the United States. **D** 9, 4, 7. **F** Branch, group and chain banking (Macmillan, 1931); "Branch banking," The Annals, 1936. **G** S.

CARVER, Thomas Nixon, 226 Palisades Ave., Santa Monica, Calif. (1893)

CARWELL, Joseph, 1810 G St., N.W., Washington, D.C. (1941) **A OPA, Chem. Econ. Sec., chief,** RA. **B** B.A., 1935, New York; M.A., 1939, Columbia. **D** 17, 11, 10. **E** Growth of chemical industry; history of post-Marxian socialism (doctoral dissertation). **F** Patterns of labor leadership (with Eli Ginzberg) (Harper, in press).

CASE, Harold Clayton M., Univ. of Illinois, 305 New Agric. Bldg., Urbana, Ill. (1919) **A** Univ. of Illinois, Dept. of Agric. Econ., head, prof., TRA. **B** B.S., Agric., 1912, M.S., 1919, Illinois; Ph.D., 1931, Wisconsin. **C** Tenancy in relation to the organization and operation of Corn-Belt farms. **D** 15, 19, 3. **E** Farm tenancy; wartime production possibilities. **F** Contributor to agric. exp. sta. buls. **G** WSE.

CASKEY, Wayne Farley, 2312 S. Nash St., Arlington, Va. (1933) **A OPA, sr. econ., RA;** RA. **B** Ph.B., 1930, Chicago; M.S., 1933, Ph.D., 1936, Illinois. **C** Some effects of seasonal variation on marketing costs in the whole milk industry. **D** 12, 18, 17. **F** Milk transportation problems in the St. Louis milk shed (with R. W. Bartlett) (Univ. of Illinois Agric. Exp. Sta. Bul. 430, Mar., 1937); "Workers with annual taxable wages of less than $200 in 1937-39," Soc. Sec. Bul., Oct., 1941; contributor, Old age insurance operating statistics review (Soc. Sec. Bd., Mar., 1938-May, 1940). **G** S.

‡**CASSEL, Gustav,** Djursholm, Sweden. (1929)

CASSIDY, Harry Morris, Univ. of California, Dept. of Soc. Welfare, 2400 Allston Way, Berkeley, Calif. (1929) **A** Univ. of California, prof., T. **B** B.A., 1923, British Columbia; Ph.D., 1926, Brookings. **C** The emergence of the free labor contract in England (see A.E.R., June, 1928). **D** 18, 17. **E** Reorganization of the Canadian health and welfare services. **F** Unemployment and relief in Ontario, 1929-32 (T. M. Dent and Sons, Toronto, 1932); Labor conditions in the men's clothing industry (with F. R. Scott) (Thos. Nelson and Sons, Toronto, 1935); "The social services in a federal system," Soc. Serv. Rev., Dec., 1941. **G** S.

CASSIDY, William James, NLRB, Detroit, Mich. (1941) **A NLRB, field examiner, A. B** B.S., 1927, Edinboro Teachers Col.; M.Ed., 1936, Pittsburgh. **D** 17, 3, 1. **E** Jurisdictional barriers to peace in the American labor movement as revealed by NLRB cases (doctoral dissertation).

CATLIN, Warren Benjamin, 268 Maine St., Brunswick, Me. (1909) **A** Bowdoin Col., chmn., prof., T. **B** A.B., 1903, Nebraska; Ph.D., 1927, Columbia. **C** The labor problem in the United States and Great Britain (Harper, 1926, 1935). **D** 17, 1, 12. **E** Progress of economics (history). **G** WSE.

CAVE, Roy Clinton, 467 Kentucky Ave., Berkeley, Calif. (1928) **A** San Francisco State Col., prof. of econ., T. **B** A.B., 1923, M.A., 1924, Univ. of Washington; Ph.D., 1928, California. **C** Social stratification and market price. **D** 19, 2, 17. **E** Book on economics of consumption. **F** Source book for medieval economic history (Bruce, 1936); "Distribution of property in two California counties," A.E.R., Dec., 1940; "Present status of federal and state food and drug legislation," Proceedings, Pacific Coast Econ. Asso., Dec., 1939.

CAVERT, William Lane, 1443 Grantham, St. Paul, Minn. (1942) **A** Farm Credit Admin., 7th Dist., dir. of res., R. **B** Ph.B., 1910, Union; B.S.A., 1912, Ph.D., 1929, Cornell; M.S., 1914, Minnesota. **C** Sources of power on Minnesota farms (Minn. Agric. Exp. Sta. Bul. 262, Feb., 1930). **D** 15. **E** Loan experience of Federal Land Bank of St. Paul by areas as related to economic productivity of land, amount of loans per acre, period in which loans were made and related factors. **F** Suggestions to purchasers of farms (with G. A. Pond) (Minn. Agric. Exp. Sta. Bul. 309, Sept., 1934). **G** W.

CAVIN, James Pierce, 7813 Aberdeen Rd., Bethesda, Md. (1940) **A OPA, Food Br., asso. price exec.;** RA. **B** B.B.A., 1927, M.A., 1930, Boston Univ.; Ph.D., 1938, Harvard. **C** The sugar quota system of the United States, 1933-37. **D** 11, 5, 8. **F** Articles in Yearbook of agriculture (U. S. Dept. of Agric., 1938-40).

CAWTHORNE, Delmas Richard, Oxford, Ohio. (1939) **A** Miami Univ., asso. prof. of econ., T. **B** A.B., 1929, Georgetown Col.; M.A., 1931, Ph.D., 1940, Ohio State. **C** Commercial banking and capital accumulation. **D** 7, 4, 9. **E** Statistical analysis of the effects of bank credit expansion. **F** Co-author, Money and banking (Macmillan, 1941).

CENTER, Charles Converse, Univ. of Missouri, 106 B. and P. A. Bldg., Columbia, Mo. (1938) **A** Univ. of Missouri, asst. prof., T. **B** B.S., 1932, Knox; M.A., 1938, Ph.D., 1941, Wisconsin. **C** Private and social insurance: a comparative analysis of their theories and methods. **D** 9, 18, 11. **E** Revision of dissertation.

CHACE, James Edward, 1228 Kentucky Ave., Gainesville, Fla. (1930) **A** Univ. of Florida, asso. prof., T. **B** A.B., 1923, Amherst; M.B.A., 1925, Harvard. **D** 17, 16, 9. **E** Disqualification of claimants for unemployment compensation.

CHADBOURNE, Walter W., Univ. of Maine, Orono, Me. (1939)

CHADWICK, Leonard Edwin, Univ. of Nevada, Econ. Dept., Reno, Nev. (1942) **A** Univ. of Nevada, asst. prof. of econ. and bus., T. **B** B.S., 1935, California. **D** 4, 11, 12.

CHAKERIAN, Charles Garabed, Connecticut Col., New London, Conn. (1939) **A** Connecticut Col., asst. prof., TR. **B** A.B., 1924, Dubuque; M.A., 1929, Chicago; Ph.D., 1934, Yale. **C** The development of state care of the dependent and defective classes in New England (pub. in part in Report of the Conn. State Pauper Law Com., 1937). **D** 18, 16, 3. **E** Relation of alcohol to crime and war. **F** "Public provision for the blind," in Studies in the science of society (Yale Press, 1937); Report, Connecticut State Emergency Relief Commission (1934). **G** S.

CHALKLEY, Sir Owen, British Embassy, Washington, D.C. (1932)

CHALMERS, Henry, 5335 43rd St., N.W., Washington, D.C. (1918) **A** U. S. Dept. of Com., consultant on commercial policy, R. **B** A.B., A.M., 1914, Cornell; Ph.D., 1928, Brookings. **C** A foreign commercial policy for the United States. **D** 8, 2, 20. **E** Commercial policy aspects of international economic reconstruction after the war. **F** Japanese cotton goods industry and trade (U. S. Tariff Com., 1921); European tariff policies since the war (U. S. Dept. of Com., 1924); annual reviews of trade policies of foreign countries in U. S. Dept. of Com. reports and Amer. Year Books since 1927. **G** WS.

CHAMBERLAIN, Edward Hastings, 4 Channing St., Cambridge, Mass. (1928) **A** Harvard Univ., prof. of econ., T. **D** B.S. in Com., 1920, Iowa; M.A., 1922, Michigan; M.A., 1924, Ph.D., 1927, Harvard. **C** The theory of monopolistic competition (Harvard Univ. Press, 4th ed., 1942). **D** 1, 14, 11. **F** Co-author: The economics of the recovery program (McGraw-Hill, 1934). "Monopolistic or imperfect competition?" Q.J.E., Aug., 1937. **G** WS.

CHAMBERLIN, Vell Burrows, 316 Taylor Ave., Glen Ellyn, Ill. (1929)

CHAMBERS, Raymond, Univ. of Buffalo, Edmund Hayes Hall, Buffalo, N.Y. (1922) **A** Univ. of Buffalo, prof. of econ. hist., T. **B** B.A., 1911, Northwestern; M.A., 1913, Ph.D., 1924, Harvard. **C** A history of transportation in Mexico to 1910. **D** 2, 14, 16. **E** Mexican railway history; grape farming in the U. S. **F** Articles on Mexican railways, Railway Age, Jan. 2, May 8, 1926, Apr. 9, 1927, Mar. 9, 1929; "History of the Chautauqua grape industry," New York Hist., July, 1935. **G** S.

CHANCELLOR, William Estabrook, 1603 W. Market Blvd., Lima, Ohio. (1934) **A** Xavier Univ., on leave. **B** A.B., 1889, A.M., 1895, Amherst; LL.B., 1934, Xavier. **D** 2, 17, 12. **E** Texts on wages and economic history of American Revolution nearly completed. **F** Motives, ideals and values in education (Houghton Mifflin, 1907); "Sevenfold production," New York Times-Annalist, 1917. **G** WE.

CHANDLER, Lester Vernon, Amherst Col., Amherst, Mass. (1939) **A** Amherst Col., prof. of econ., T. **B** A.B., 1930, M.A., 1931, Missouri; Ph.D., 1934, Yale. **C** Federal reserve credit policies. **D** 7, 5, 6. **F** Introduction to monetary theory (Harper, 1941); "Monopolistic aspects of commercial banking," J.P.E., Feb., 1938. **G** S.

CHANG, Albert Chen, 226 S. 38th St., Philadelphia, Pa. (1941)

CHAPMAN, Herman Hollis, University, Ala. (1922)

CHAPMAN, John M., Columbia Univ., School of Bus., New York City. (1920)

CHASE, Charles Harry, Westchester Apts., 123B, Washington, D.C. (1916) **A WPB, Plan. Com., sr. econ. anal., R;** Amer. Asso. for Econ. Freedom, econ., R. **B** B.S., 1913, Columbia. **D** 3, 10, 11. **E** Continuity and metamorphoses of social values (doctoral dissertation); worksheets for postwar reconstruction.

CHAU, Yau Pik, 706 Jackson St., San Francisco, Calif. (1942) **A** R. **B** B.A., 1929, Lingnan Univ.; M.A., 1938, Michigan; Ph.D., 1942, Chicago. **C** The taxation reforms of the Chinese National Government in the decade 1927-37. **D** 6, 7, 8. **E** Crucial fiscal problems in postwar China.

CHAWNER, Lowell J., 7418 Lynnhurst St., Chevy Chase, Md. (1933) **A** U. S. Dept. of Com., spec. asst. to secy., RA. **B** A.B., 1921, Occidental; C.E., 1931, Cornell. **D** 11, 13, 10. **E** Public policies relating to industrial technology. **F** Construction activity in the United States (1938), Residential building (1939), Manufacturing capital expenditures (1942) (U. S. Gov. Print. Office). **G** S.

CHEN, Henry Hin-Cheung, 58 E. 4th St., New York City. (1942) **A** New York Univ., asst. in econ., T. **B** B.S., 1935, Chiao-Tung Univ., Shanghai; M.B.A., 1939, Ph.D., 1942, New York. **C** A study of the elements of operating and managerial efficiency of motor truck transportation (with special reference to motor transportation in China). **D** 14, 1. 7. **E** Economic problems of the Far East and its postwar reconstruction. **F** The foreign debts of the Chinese national railways (in Chinese) (Wan-Ying Pub. House, Canton, 1937).

CHENAULT, Lawrence R., 3754 84th St., Jackson Heights, N.Y. (1938) **A** Hunter Col., asst. prof. of econ., T. **B** B.B.A., 1920, Texas; A.M., 1933, Wayne; Ph.D., 1938, Columbia; C.P.A., 1928, Texas. **C** The Puerto Rican migrant in New York City (Columbia Univ. Press, 1938). **D** 20, 8, 4. **F** "The population problem of Puerto Rico," Soc. Forces, Mar., 1941.

CHENEY, Coleman B., Skidmore Col., Saratoga Springs, N.Y. (1928)

CHENEY, Roy Alexander, 2 Park Ave., New York City. (1940)

CHERIN, Gabriel, 119 35th St., S.E., Washington, D.C. (1942)

CHERINGTON, Charles R., Westford Rd., Concord, Mass. (1939)

CHERINGTON, Paul Terry, 35 Claremont Ave., New York City. (1909) **A** McKinsey and Co. (invest. consultants), partner, B. **B** B.S., 1902, A.M., 1908, Pennsylvania. **D** 12, 4, 16. **E** Market research for clients. **F** People's wants (Harper, 1935); Elements of marketing (Macmillan, 1920); Advertising as a business force (Doubleday, 1912). **G** WSE.

CHERRINGTON, Ben Mark, Univ. of Denver, Found. for Adv. of Soc. Sci., Denver, Colo. (1936)

CHERRINGTON, Homer Virgil, Iowa City, Iowa, (1923) **A** Univ. of Iowa, prof., T. **B** A.B., 1914, Ohio; Ph.D., 1940, Harvard. **C** The Securities Act. **D** 9, 10, 11. **F** The investor and the Securities Act. (Amer. Coun. on Pub. Affairs, 1942).

CHEYNEY, William James, 730 15th St., N.W., Washington, D.C. (1932) **A** Nat. Retail Furniture Asso., vice-pres., A; Amer. Retail Fed., counsel for trade rela.; Nat. Furn. Rev., ed. **B** A.B., 1920, George Washington; A.M., 1932. Rutgers. **D** 12, 10, 1. **F** Annual operating report of the retail furniture industry (Nat. Retail Furn. Asso., 1937, ff.); Handbook on trade relations (Amer. Retail Fed., 1940); "The case against retailing," "The case for retailing," Nat. Furn. Rev., 1938.

CHICKERING, Martha A., Univ. of California, Econ. Dept., Berkeley, Calif. (1931) **A Calif. State Dept. of Soc. Welfare, dir., A. B** Ph.D., 1936, California. **D** 18.

CHILDS, Frank Elmer, Univ. of Minnesota, School of Bus., Minneapolis, Minn. (1936) **A** Univ. of Minnesota, instr., TR. **B** B.A., 1934, Willamette; M.B.A., 1936, Southern California. **D** 17, 4, 1. **E** St. Paul Employment Study staff, Minnesota Employment Stabilization Inst.

CHILDS, James Bennett, Library of Congress, Washington, D.C. (1925) **A** Library of Congress, Div. of Doc., chief, A. **B** A.B., 1918, B.L.S., 1921, Illinois. **D** 2. **G** WS.

CHINGOS, E. George, 59 W. 27th St., New York City. (1934)

CHINLUND, Edwin F., 253 Broadway, New York City. (1924)

CHLEPNER, B. S., 2407 15th St., N.W., Washington, D.C. (1942)

CHRISTENSON, Carroll Lawrence, Indiana Univ., Bloomington, Ind. (1925) **A OPA, Chicago Regional Office, price exec., RA;** Indiana Univ., prof. of econ., TR. **B** Ph.B., 1924, Ph.D., 1931, Chicago. **C** Collective bargaining in Chicago (Univ. of Chicago Press, 1933). **D** 17, 10, 1. **E** Financial systems of American trade unions. **F** "Trade union law," Ind. Law Jour., 1935; Economics principles and problems (Crowell, 1942). **G** S.

CHRISTMAN, F. Lucile, 6643 Western Ave., N.W., Washington, D.C. (1940) **A** U. S. Dept. of Labor, Bur. of Labor Statis., asst. econ., R. **B** B.A., 1935, Ohio State. **D** 17, 7, 10. **E** Estimates of federal, state, and local public employment. **F** Government employment and pay rolls, 1929-38, City of Springfield and Hampden County, Massachusetts (U. S. Dept. of Labor Bul., Oct., 1940).

CHRYSLER, Russell Loren, Univ. of Cincinnati, Baldwin Hall, Cincinnati, Ohio. (1937) **A** Univ. of Cincinnati, instr., T. **B** B.B.A., 1932, M.A., 1937, Minnesota. **D** 12, 1, 4.

CHUDNOWSKY, Walter Alexander, 310 W. 106th St., New York City. (1939)

CHUTE, A(aron) Hamilton, Univ. of Minnesota, Vincent Hall, Minneapolis, Minn. (1937) **A** Univ. of Minnesota, asso. prof. of market., TR. **B** B.A., 1916, Michigan; M.A., 1931, Ph.D., 1935, Ohio State. **C** The marketing of burned-clay products (Ohio State Univ. Press, 1939). **D** 12, 4, 11. **F** Retailing by pharmacists (Burgess Pub. Co., Minneapolis, 1941); Vacations and employee discounts in Ohio department and specialty stores (Ohio State Univ., Bur. of Bus. Res., 1932).

CIST, Frank, S. Ocean Blvd., Delray Beach, Fla. (1941) **B** A.B., 1909, Princeton; LL.B., 1912, Harvard. **D** 5, 7, 8. **E** Business cycles and gold standard; postwar reconstruction.

CLAGUE, Ewan, 3821 Woodley Rd., N.W., Washington, D.C. (1932) **A** Soc. Sec. Bd., Fed. Sec. Agency, Bur. of Employ. Sec., asso. dir., A. **B** A.B., 1917, M.A., 1921, Univ. of Washington; Ph.D., 1929, Wisconsin. **C** Productivity of labor in American industry. **D** 18, 17, 10. **F** Charitable trusts (Jt. Com. of Community Coun. of Philadelphia and Pennsylvania School of Social Work, 1935); Ten thousand out of work (with Powell) (Univ. of Pennsylvania, 1933); After the shutdown (with

Couper and Bakke) (Yale Univ., Inst. of Human Rela., 1934). G WS.

CLARK, E. Harrison, Naval Operating Base, Iceland (c/o Postmaster, New York City). (1940) A **U. S. Naval Reserve, lieut.;** U. S. Treas., econ. anal., R. B B.A., 1934, M.A., 1935, McGill; Ph.D., 1939, Harvard. C Swedish unemployment policy, 1914-40 (Washington, D.C., 1941). D 8, 17, 7.

CLARK, Evans, 330 W. 42nd St., New York City. (1932) A Twentieth Cent. Fund, Exec. dir., A. B B.A., 1910, Amherst; M.A., 1913, Columbia. D 1, 19, 7. F Financing the consumer (1930), How to budget health (1933) (Harper); editor, Internal debts of the United States (Macmillan, 1933). G WS.

CLARK, Floyd Barzilia, College Station, Tex. (1941) A A. and M. Col. of Texas, Dept. of Econ., head, prof., T.A. B B.A., 1907, M.A., 1908, Richmond; Ph.D., 1914, Johns Hopkins. C The constitutional doctrines of Justice Harlan (Johns Hopkins Press, 1915). D 1, 7, 10. E Comparative economic philosophy. F Expansion of economic concepts (Southwest Press, 1932); Economics of distribution (A. and M. Col. of Texas Press, 1933); "The yet unsolved problem of peace," World Unity, Apr., 1929. G E.

CLARK, Fred Emerson, 1602 Ashland Ave., Evanston, Ill. (1914) A Northwestern Univ., prof. of econ and market., TA. B A.B., 1912, Albion; M.A., 1913, Ph.D., 1916, Illinois. C The purposes of the indebtedness of American cities, 1880-1912 (Municipal Res., No. 75, July, 1916). D 12, 11, 10. E Completing revision of Principles of marketing. F Principles of marketing (3rd ed., 1942), Marketing agricultural products in the United States (with L. D. H. Weld) (1932) (Macmillan). G WS.

CLARK, Harold Florian, Columbia Univ., Teachers Col., New York City. (1930) A Columbia Univ., TR. B Ph.D., 1924, Columbia; LL.D., 1939, Asbury. C The cost of government and the support of education (Teachers Col. Press, 1924). D 18, 16, 19. E Improvement of conditions in backward communities through education. F An experiment in applied economics (Sloan Found., 1940); Economic theory and occupational distribution (Columbia Univ., 1931); Life earnings in selected occupations (Harper, 1937). G WSE.

CLARK, John Davidson, 1100 Randall Ave., Cheyenne, Wyo. (1929) A Univ. of Nebraska, Col. of Bus. Admin., dean, TA. B A.B., 1905, LL.D., 1938, Nebraska; LL.B., 1907, Columbia; Ph.D., 1931, Johns Hopkins. C The federal trust policy (Johns Hopkins Press, 1931). D 10, 3, 14. G W.

CLARK, John Maurice, 41 Wright St., Westport, Conn. (1909) A **OPA, consultant;** Columbia Univ., prof. of econ., TR. B A.B., 1905, L.H.D., 1935, Amherst; A.M., 1906, Ph.D., 1910, Columbia; LL.D., 1941, Chicago. C Standards of reasonableness in local freight discriminations (Columbia Univ. Press, 1910). D 1, 10, 5. F Economics of overhead costs (Univ. of Chicago Press, 1923); Social control of business (Univ. of Chicago Press, 1926; McGraw-Hill, 1939); Strategic factors in business cycles (Nat. Bur. of Econ. Res., 1934); Costs of the World War to the American people (Carnegie Endow. for Int. Peace, 1931). G WSIE.

CLARK, Lawrence E., Trinity Univ., San Antonio, Tex. (1921) A Trinity Univ., prof., T. B A.B., 1916, Drake; A.M., 1922, Ohio State; Ph.D., 1935, Columbia.

CLARK, Lincoln H., Univ. of Maryland, College Park, Md. (1941) A Univ. of Maryland, asst. prof., T. B A.B., 1937, M.B.A., 1938, Ph.D., 1940, Chicago. C Credit unions in the United States. D 19, 3, 10. E Price policy for co-operatives. F "The co-operative one-half of one per cent," Q.J.E., Feb., 1942.

***CLARK, Martin,** 203 Erie County Bank Bldg., Buffalo, N.Y. (1887) A Lawyer. B B.A., 1879, Yale. D 7, 6.

CLARK, Ralph Nelson, 32 Longview Dr., Longmeadow, Mass. (1940) A Springfield Safe Deposit and Trust Co., econ., R. B A.B., 1915, Dartmouth; B.C.S., 1927, M.B.A., 1929, New York. D 9, 8, 4.

CLARK, Robert F., Marietta Col., Marietta, Ohio. (1936)

CLARK, Victor Selden, Library of Congress, Washington, D.C. (1906) A Library of Congress, consultant in econ. B Lit.B., 1890, Minnesota; Ph.D., 1900, Columbia. C The Latin literature of the Middle Ages and the Renaissance. D 2, 16, 17. F History of manufactures in the United States (McGraw-Hill, 3 vols., 1915-29); The labor movement in Australia (Holt, 1916). G S.

CLARK, Walter Ernest, 524 Cheney St., Reno, Nev. (1902) A Univ. of Nevada, pres. emeritus. B B.A., 1896, M.A., 1898, Ohio Wesleyan; Ph.D., 1903, Columbia. C Josiah Tucker, economist (Columbia Univ., 1903). D 1, 7. F The cost of living (McClurg, 1913); The trust problem book (with J. W. Jenks) (Doubleday, Page, 5th ed., 1928). G WS.

CLARK, Wesley Clarke, Syracuse Univ., Faculty Club, 215 Euclid Ave., Syracuse, N.Y. (1942) A Syracuse Univ., asst. prof., T. B A.B., 1930, Marietta; M.A., 1937, Ph.D., 1942, Pennsylvania. C Economic aspects of a president's popularity. D 10, 17, 4. E Communications in the Caribbean. F "Municipal reports," Pub. Opinion Quar., July, 1940.

CLELAND, John Scott, Monmouth Col., Monmouth, Ill. (1919) A Monmouth Col., dean, TA. B A.B., 1908, Muskingum; A.M., 1909, Princeton; Ph.D., 1914, Pittsburgh. C The church and social service in Pittsburgh. D 17, 1, 20. G WSE.

CLEMEN, Rudolf Alexander, Lindenhaven, Edgerstoune Rd., Princeton, N.J. (1924) B B.A., 1913, M.A., 1914, Dalhousie; A.M., 1915, Ph.D., 1926, Harvard. C The American livestock and meat industry (Ronald Press, 1923). D 2, 10, 15. E Technology and the social order. F By-products in the packing industry (Univ. of Chicago Press, 1927). G WSE.

CLEMENCE, Richard, W. 254th St. and Independence Ave., Riverdale, New York City. (1941) A Nat. Bur. of Econ. Res., res. asso., R. B Ph.B., 1934, M.A., 1936, Brown; A.M., 1940, Harvard. D 5, 7, 1. F "Modern economics and the introductory course" (with F. S. Doody), A.E.R., June, 1942.

CLEMENS, E(li) Winston, Southwestern Louisiana Inst., Lafayette, La. (1935) A Southwestern Louisiana Inst., asso. prof., T. B B.S. in Engr., 1930, Virginia Poly. Inst.; M.S. (Econ.), 1934, Illinois; Ph.D., 1940, Wisconsin. C Regulation of public utilities in Wisconsin. D 14, 11, 1. E Book on regulation of public utilities in Wisconsin (with M. G. Glaeser and J. L. Miller); economics of industry. F "Price discrimination in decreasing cost industries." A.E.R., Dec., 1941.

CLEMENS, Richard, Jr., 109 Westminster Rd., West Hempstead, N.Y. (1937) A John Adams High School, instr., T. B B.S., 1929, M.A., 1930, New York. D 7, 8, 6. E History of banking vs. currency principles of note issues.

CLEVELAND, William Charles, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1922) A Indiana Univ., asso. prof., TR. B A.B., 1923, Beloit; Ph.D., 1938, Chicago. C Investment policies as a factor in the Chicago bank suspensions, 1929-33. D 7, 5, 8. E Operating and balance sheet ratios of Indiana banks, 1934-42. F "Monetary and credit controls in a war economy," Investment Bul. (Indiana Univ., School of Bus.), Dec., 1941; "Monetary policies" in Economics of war, by G. A. Steiner (Wiley, 1942). G S.

CLEVENGER, (Mrs.) Clara Howard, 824 E. Patterson Ave., Kirksville, Mo. (1923) A N. E. Missouri State Teachers Col., prof. of econ. and soc., T. B Ph.B., 1917, Chicago; A.M., 1920, Stanford; Ph.D., 1934, Cornell. C Legislative control of banking in Missouri since 1889. D 7, 1, 19.

CLINE, Denzel Cecil, 134 Kensington Rd., East Lansing, Mich. (1927) A Michigan State Col., asso. prof., res. asso., TR. B A.B., 1925, M.A., 1926, Univ. of Washington; Ph.D., 1933, Princeton. C Public finances of the state government of New Jersey. D 6, 18, 1. E Fiscal studies of Michigan county governments; property tax rate limitation in Michigan. F "General sales taxes and selective excises," in Financing the war (Tax Inst., 1942); Michigan tax trends (Mich. Agric. Exp. Sta., 1940); joint author, Money, credit, and finance (Little, Brown, 1938). G SE.

CLOSE, James A., 107 Center St., Hancock, Mich. (1941)

CLOVER, Vernon T., Ft. Hays Kansas State Col., Hays, Kan. (1942)

CLOWER, Fay Walter, State Col. of Washington, Pullman, Wash. (1940) **A** State Col. of Washington, asso. prof. **B** A.B., 1922, Kansas; A.M., 1924, Chicago. **D** 1, 5, 17. **F** "Economics of Fair Labor Standards Act," Proceedings, Pacific Coast Econ. Asso., Dec., 1940; "Note on supply curve for capital," A.E.R., June, 1929. **G** E.

CLYMAN, Bernard, 5004 N. 5th St., Philadelphia, Pa. (1942)

COATS, Robert Hamilton, Dominion Statistician, Ottawa, Canada. (1911)

COBB, William C., Houghton Mifflin Co., 2 Park St., Boston, Mass. (1940)

COCHRAN, Harry A., Temple Univ., Philadelphia, Pa. (1931)

COGEN, Charles, 1555 Odell St., Bronx, New York City. (1938) **A** Bronx High School of Sci., T. **B** A.B., 1924, Cornell; LL.B., 1927, Fordham; M.A., 1931, Columbia. **D** 17, 19, 7. **F** Co-author, Review materials for economics license (privately pub., rev. 1940).

COHAN, Avery Berlow, 25 W. 54th St., New York City. (1941) **B** A.B., 1934, Cornell; A.M., 1942, Columbia. **D** 1, 11, 6. **E** Nature of competition (doctoral dissertation).

COHEN, Frank, 88 Central Park W., New York City. (1939)

COHEN, Harry L., 1114 E. 38th St., Brooklyn, N.Y. (1922) **A** James Madison High School, instr. in econ., T. **B** A.B., 1920, M.B.A., 1921, City of New York. **D** 6, 9, 7.

COHEN, Martin Alvin, 1925 N. Humboldt Blvd., Chicago, Ill. (1941) **A U. S. Army Air Corps, Budget Office, statis. B** B.S., 1936, Illinois Inst. of Tech.; M.A., 1941, Chicago. **D** 17, 18, 10.

COHEN, Sam L., 30 Pine St., New York City. (1912)

COHEN, Wilbur J., Social Security Bd., Washington, D.C. (1936) **A War Manpower Com., asst. to exec. officer;** Soc. Sec. Bd., tech. adviser, RA. **B** Ph.B., 1934, Wisconsin. **D** 18, 17, 10. **E** Extension of social insurance to agricultural labor, domestic service, and the self-employed; unemployment insurance. **F** "Need for a uniform system of unemployment compensation," Amer. Labor Legis. Rev., Mar., 1942; "Development of social security in the United States," Soc. Educa., Nov., 1941; "Simplifying social security collections," Soc. Sec., June-July, 1941. **G** S.

COHENOUR, Vincent, 214 Union St., Joliet, Ill. (1942)

COIL, E(verett) Johnston, National Planning Asso., 800 21st St., N.W., Washington, D.C. (1930) **A** Nat. Plan. Asso., dir., R.A. **B** A.B., 1928, William Jewell; M.B.A., 1930, Harvard. **G** S

COIT, Eleanor Gwinnell, Labor Educa. Serv., 437 W. 59th St., New York City. (1930)

COLBERG, Marshall Rudolph, 1306 21st St., N.W., Washington, D.C. (1940) **A WPB, Statis. Div., sr. econ., R. B** A.B., 1934, A.M., 1938, Chicago. **D** 10, 1, 14. **F** "Monopoly prices under joint costs: fixed proportions," J.P.E., Feb., 1941.

COLE, Arthur Harrison, Box 37, Cambridge, Mass. (1913) **A** Harvard Univ., Grad. School of Bus. Admin., librarian, R. **B** A.B., 1911, Bowdoin; A.M., 1913, Ph.D., 1916, Harvard. **C** History of American wool manufacture to 1830 (pub. in extended form as American wool manufacture, Harvard Univ. Press, 1927). **D** 2. **F** Wholesale commodity prices in the United States, 1700-1861 (1938), Fluctuations in American business, 1790-1860 (with W. B. Smith) (1938), American carpet manufacture (with H. F. Williamson) (1941) (Harvard Univ. Press). **G** WS.

COLE, Barbara S., Box 37, Cambridge, Mass. (1942)

COLE, Charles Woolsey, Columbia Univ., New York City. (1935) **A OPA, acting branch chief, A;** Columbia Univ., prof., T. **B** A.B., 1927, L.H.D., 1942, Amherst; A.M., 1928, Ph.D., 1931, Columbia. **C** French mercantilist doctrines before Colbert (R. R. Smith, 1931). **D** 1, 3. **E** French mercantilism, 1683-1700 (practically complete). **F** Colbert and a century of French mercantilism (Columbia Univ. Press, 1939); Economic history of Europe (with S. B. Clough) (Heath, 1941). **G** S.

COLE, David Maurice, Fort Hays Kansas State Col., Hays, Kan. (1941) **A** Fort Hays Kansas State Col., instr., T. **B** B.A., 1937, M.B.A., 1939, Univ. of Washington. **D** 7, 9, 1. **E** Economic trends in western Kan.

COLEBANK, A. W., 431 W. Oakdale Ave., Apt. 13-C, Chicago, Ill. (1939)

COLEMAN, Floyd Basil Thomas, 435 W. 119th St., New York City. (1935) **A** Bd. of Educa., N.Y.C., instr. in econ., statis., TR. **B** A.B., 1926, Columbia Col.; A.M., 1929, Columbia Univ.; Zeügnis, 1931, Univ. of Berlin. **D** 1, 4, 7. **E** National socialist philosophy of education; proposed controls over the issuance of new securities (doctoral dissertation). **F** "Honor schools," Secondary Educa. (N.E.A.), 1938; "More about honor schools," High Points, 1939. **G** E.

COLEMAN, Raymond W, Carnegie Inst. of Tech., Pittsburgh, Pa. (1936) **A U. S. Army, Air Corps, capt., A;** Carnegie Inst. of Tech., asso. prof., TR. **B** B.B.A., 1923, M.B.A., 1926, Univ. of Washington; Ph.D., 1935, Pittsburgh. **C** Pledged revenue as security for government bonds. **D** 4, 8, 6. **F** "Pledged revenue for government bonds," A.E.R., Dec., 1936; Elements of accounting (McGraw-Hill, 1941); "Government bonds and the balanced budget," Harvard Bus. Rev., Autumn, 1941.

COLGAN, Virginia Elizabeth, 165 Broadway, Room 910, New York City. (1941) **A** Asso. of Life Ins. Pres., asso. statis., A. **B** A.B., 1924, Columbia. **D** 4, 8, 18.

COLIN, David H., 301 E. 21st St., New York City. (1942) **A New York Univ., Washington Square Col., instr., T. B** B.S., 1916, City of New York; A.M., 1939, New York. **D** 16, 17, 20. **E** Economic planning (doctoral dissertation).

COLLADO, Emilio Gabriel, 3021 45th St., N.W., Washington, D.C. (1932) **A** State Dept., spec. asst. to Under Secy. of State. A. **B** S.B., 1931, M.I.T.; A.M., 1934, Ph.D., 1936, Harvard. **C** Japanese competition in international trade. **D** 8.

COLLINS, Clem Wetzell, Univ. of Denver, School of Com., Glenarm Pl. at 20th, Denver, Colo. (1936) **A** Univ. of Denver, School of Com., dean, A. **B** B.C.S., 1911, B.S., 1933, Denver; C.P.A., 1912, Colorado, 1923, California. **D** 4, 6, 9. **F** C.P.A. Review (Wiley, 1927); C.P.A. Review Answers (Wiley, 1928); Assessors' and appraisers' manual (with W. L. and Frank Prouty) (McGraw-Hill, 1930); Taxes and the taxpayer' (City and County of Denver, 1931). **G** WE.

COLLINS, William Joseph, St. Ambrose Col., Davenport, Iowa. (1936) **A** St. Ambrose Col., asso. prof., T. **B** A.B., 1925, St. Ambrose; M.A., 1929, Catholic; Ph.D., 1942, Iowa. **C** The administration of old age assistance in Iowa. **D** 1, 17, 10. **F** "Agricultural credit agencies," "The farmer's campaign for credit," Catholic Rural Life, 1928.

COLM, Gerhard, 1615 N. Lexington St., Arlington, Va. (1934) **A U. S. Bur. of the Budget, chief fiscal anal., R;** New School for Social Res., Grad. Faculty, prof. of econ., T. **B** Dr. rer. pol., 1921, Univ. of Freiburg. **C** Geschichte und soziologie des Ruhraufstands 1920 (Baedeker, Essen, 1921). **D** 6, 8, 3. **E** Principles in public finance and fiscal policy. **F** Economics of public expenditures (in German) (Mohr, Tuebingen, 1927); "Economic consequences of recent American tax policy" (with F. Lehmann), Soc. Res., Sup., 1937. **G** SI.

COLUMBA, (Sister) M., Mundelein Col., 6363 Sheridan Rd., Chicago, Ill. (1939)

COLVIN, Woolf, 2707 Quentin Rd., Brooklyn, N.Y. (1930) **A** Bd. of Educa., N.Y.C., Dept. of Soc. Studies, head, TA. **B** B.A., 1920, M.A., 1921, Toronto; Ph.D., 1923, Cornell. **C** Knowledge and reality in the philosophy of Wilhelm Wundt. **D** 5, 17, 19. **F** Economic problems of today (Lyons and Carnahan, 1936); A teaching guide for the social studies (Col. Ent. Pub. Co., 1940).

COMINS, Harold Northend, 6 Park Ave., Wakefield, Mass. (1935)

COMISH, Newell Howland, Univ. of Oregon, Eugene, Ore. (1918) **A** Univ. of Oregon, prof. of bus. admin., TR. **B** B.S., 1911, Utah State Col.; M.S., 1915; Ph.D., 1929, Wisconsin. **C** The development of consumption into an organized body of thought. **D** 12, 19. **E** Analysis of standards of efficiency in use in Oregon stores; analysis of buying sources and methods used by Oregon merchants. **F** The standard of living (Macmillan, 1923); Cooperative marketing of agricultural products (Appleton, 1929); The marketing of manufactured goods (Stratford, 1935). **G** W.

COMMONS, John Rogers, Univ. of Wisconsin, Madison, Wis. (1910) **A** Univ. of Wisconsin, emer. prof. of econ. **B** A.B., 1888, A.M., 1890, LL.D., 1915, Oberlin; LL.D., 1931, Wisconsin. **D** 17, 1. **E** Economic theory and administration. **F** History of labor in the United States (with others) (Macmillan, 1918); Principles of labor legislation (with J. B. Andrews) (Harper, 1916); Legal foundations of capitalism (1924); Institutional economics (1934). **G** WS.

***COMPTON, Wilson Martindale,** 1337 Connecticut Ave., Washington, D.C. (1919)

COMSTOCK, Alzada, Mount Holyoke Col., South Hadley, Mass. (1930)

COMSTOCK, Edward Garfield, 35-53 82nd St., Jackson Heights, N.Y. (1941) **A** Newell Emmett Co., asst. dir. of market res., B. **B** 1926-28, Rutgers; 1938, Univ. of Puerto Rico. **D** 12, 16, 4.

CONANT, Luther, 46 Shepard St., Cambridge, Mass. (1915)

CONDLIFFE, John Bell, Univ. of California, Dept. of Econ., Berkeley, Calif. (1941) **A** Univ. of California, prof., T. **B** B.A., 1913, M.A., 1914, D.S., 1928, Univ. of New Zealand; LL.D., 1942, Occidental. **C** The industrial revolution in the Far East (Econ. Record, 1928). **D** 8, 3, 1. **E** Regulation of international trade. **F** New Zealand in the making (Chicago Univ. Press, 1930); World economic survey (League of Nations, annually, 1931-37); Agenda for a postwar world (Norton, 1942). **G** SI.

CONDOIDE, Mikhail V., 188 W. 10th Ave., Columbus, Ohio. (1937) **A** Ohio State Univ., R. **D** 8, 2, 3.

CONLEY, William Henry, 28 N. Franklin St., Chicago, Ill. (1931)

CONN, Harlan De Witt, American Univ. at Cairo, Land Title Bldg., Philadelphia, Pa. (1941) **A** American Univ. at Cairo (on furlough 1941-42), bursar (rank of prof.), A. **B** B.S., 1922, Illinois; grad. work, 1928-29, Univ. of Paris, 1942, Columbia. **D** 4, 8, 16.

CONRAD, William E. F., U. S. Dept. of Agric., Bur. of Agric. Econ., Div. of Market. and Transp. Res., Washington, D.C. (1939) **A** U. S. Dept. of Agric., sr. agric. econ., R. **B** A.B. in Com., 1927, Ohio; M.B.A., 1929, Northwestern. **D** 12, 3, 10.

CONVERSE, Paul D., 313 Commerce Bldg., Urbana, Ill. (1915) **A** Univ. of Illinois, prof., TR. **B** A.B., 1913, M.A., 1914, Washington and Lee. **D** 12, 19, 10. **F** Elements of marketing (rev. 1940), Selling policies (1927) (Prentice-Hall); "Labor saving devices in marketing," Jour. of Market., Oct., 1939. **G** S.

CONWAY, Thomas F., 63 Broad St., Plattsburg, N.Y. (1942)

CONWELL, Ralph Edwards, Univ. of Wyoming, Laramie, Wyo. (1938) **A** Univ. of Wyoming, Dept. of Econ. and Soc., head, prof. of econ., T. **B** B.A., 1924, LL.B., 1928, Wyoming; M.A., 1929, Univ. of Colorado. **D** 7, 19. **F** "John Benjamin Kendrick" in Amer. Dic. of Biog. (Spring, 1942).

COOK, Roy Clyde, 1731 D St., N.E., Washington, D.C. (1941) **A** Dept. of Justice, Antitrust Div., econ. expert, R. **B** A.B., 1931, South Carolina; A.M., 1941, George Washington. **D** 11, 10, 12. **E** Trade restraints in nonferrous metals industries. **F** Control of the petroleum industry by major oil companies (TNEC Mono. No. 39, 1941).

COOKE, Gilbert William, Bowling Green State Univ., Bowling Green, Ohio. (1931) **A** Bowling Green State Univ., asso. prof., T. **B** B.S., 1923, M.A., 1926, Minnesota; Ph.D., 1936, Wisconsin. **C** North Dakota industrial program (see **F**). **D** 6, 9, 4. **E** Saving deposits in mutual and nonmutual banks, 1910-40; history and effect of Ohio ten-mill tax limitation. **F** "North Dakota state mill and elevator," J.P.E., Feb., 1938; "North Dakota state hail insurance," Jour. of Bus., July, 1938; "North Dakota rural credit system," Jour. of Land and Pub. Util. Econ., Aug., 1938.

COOLEY, Henry Bell, 12 Raymond St., Chevy Chase, Md. (1938) **A Bd. of Investigation and Res., prin. transp. cost anal., R. B** B.E., 1921, LL.B., 1928, C.E., 1931, Tulane; M.B.A., 1937, Harvard. **D** 14, 16, 4. **E** Relative economy and fitness of carriers. **F** Principles of economics and business for engineers (mimeo., 1939).

COOMBS, Philip Hall, 4119 4th St., N., Arlington, Va. (1939) **A OPA, Retail Trade and Services Div., asst. to dir., A. B** A.B., 1937, Amherst; grad. work, Chicago, Brookings. **D** 10, 11, 12.

COONS, Arthur Gardiner, Harper Hall, Claremont, Calif. (1920) **A OPA, state price officer for So. Calif., A;** Claremont Colleges, Grad. School, dir. of studies, prof. of econ., TR. **B** A.B., 1920, Occidental; M.A., 1922, Ph.D., 1927, Pennsylvania. **C** The foreign public debt of China (Univ. of Pennsylvania Press, 1930). **D** 8, 3, 1. **E** Public corporations as economic organizations. **F** Economic reconstruction in China (Col. of Chinese Studies, Peking, 1934); "Major problems in financing public corporations," Proceedings, Pacific Coast Econ. Asso., Dec., 1939; "Economic planning in a democracy," Plan Age, Feb., 1939. **G** S.

COOPER, Chester Lawrence, 397 State St., Albany, N.Y. (1942) **A N. Y. State Div. of Com., sr. econ., R. B** B.S., 1939, M.B.A., 1940, New York. **D** 16, 1, 14. **E** Deurbanization in N.Y.C. **F** War agency handbook (N. Y. State Div. of Com., 1942); Cases in public utility finance (New York Univ., Dept. of Pub. Util., 1940).

COOPER, Hobart S., 3819 Massachusetts Ave., N.W., Washington, D.C. (1941)

COOPER, Howard Earl, Johns Hopkins Univ., Baltimore, Md. (1940) **A** Johns Hopkins Univ., School of Bus. Econ., act. dir., Evening Courses in Bus. Econ., dir., asso. prof. of polit. econ. **B** B.S., 1925, Denver; M.S., 1927, Columbia; Ph.D., 1932, Johns Hopkins. **C** The application of standard costs to factory overhead expense (pub. in part, Nat. Asso. of Cost Accountants, Sept. 15, 1933). **D** 4, 7, 9. **G** S.

COOPER, Lyle Winston, 4931 Butterworth Pl., N.W., Washington, D.C. (1927)

COOPER, Orah (Mrs. Chester L.), 11 S. Lake Ave., Albany, N.Y. (1942)

COOPER, Vernom, Eastern Montana State Normal School, Billings, Mont. (1939) **A** Eastern Montana State Normal School, asso. prof., T. **B** A.B., 1920, Valparaiso; M.A., 1924, Ph.D., 1927, Iowa. **C** Public career of William Boyd Allison. **D** 2, 1, 17. **G** E.

COOPER, Walter Winston, 177 Hillcrest Rd., Berkeley, Calif. (1920)

COPELAND, Melvin Thomas, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1909) **A** Harvard Univ., prof. of market., T. **B** A.B., 1906, S.D., 1931, Bowdoin; A.M., 1907, Ph.D., 1910, Harvard. **C** Cotton manufacturing industry of the United States (Harvard Univ. Press, 1912). **D** 11, 12. **F** Principles of merchandising (A. W. Shaw, 1924); Marketing problems (A. W. Shaw, 4th ed., 1931); A raw commodity revolution (Harvard Bus. Res. Studies, Mar., 1938). **G** WS.

COPELAND, Morris Albert, 5712 33rd St., N.W., Washington, D.C. (1921) **A WPB, Div. of Statis., Munitions Br., chief, A;** R. **B** A.B., 1917, Amherst; Ph.D., 1921, Chicago. **C** Some phases of institutional value theory (Univ. of Chicago Press, 1921). **D** 1, 10, 19. **E** Capital budgeting. **F** "Communities of economic interest and the price system," in Trend of economics, by Rexford G. Tugwell; "Economic theory and natural science theory," A.E.R., Mar., 1931; "Concepts of national income," in Conf. on Res. in Income and Wealth Studies (Nat. Bur. of Econ. Res., 1937). **G** WS.

COPPOCK, Joseph David, 3905 Davis Pl., N.W., Washington, D.C. (1934) **A WPB, Requirements**

Com., spec. asst. to chmn., A; TR. B A.B., 1933, Swarthmore; M.A., 1934, Ph.D., 1940, Columbia. C Government agencies of consumer installment credit (Nat. Bur. of Econ. Res., 1940). D 11, 8, 1. E Texts on economics of enterprise and special purpose money, food stamp plan (nearing completion). G SE.

CORBETT, James Francis, 76 79th St., Brooklyn, N.Y. (1932) A New Utrecht High School, T. B B.S., 1925, City of New York; M.A., 1930, New York. D 19, 10, 11. F Modern economics (with M. Colvin) (Macmillan, rev., 1940).

CORCORAN, John Joseph, Jr., Exec. Office of the President, Bur. of the Budget, Div. of Statis. Stand., Washington, D.C. (1936) A Bur. of the Budget, asst. econ., RA, editorial. B B.A., 1931, M.A., 1938, Buffalo. D 4, 10, 1.

COREY, C(yrus) Stanley, 305 Highland Ave., Kent, Ohio. (1935) A Kent State Univ., asso. prof., T. B A.B., 1928, Colby; A.M., 1931, Ph.D., 1933, Illinois. C The Supreme Court and state taxation of interstate commerce. D 6, 7, 1. E Economic history of Aroostoock Co., Me. G S.

COREY, Hibbert Dell, Col. of William and Mary, Dept. of Econ., Williamsburg, Va. (1940)

CORNISH, Robert Sanford, Univ. of Georgia, School of Bus., Athens, Ga. (1942) A Univ. of Georgia, asso. prof., T. B B.A., 1916, Yale; M.A., 1924, Columbia; Ph.D., 1942, Pittsburgh. C The background and operation of the Fair Labor Standards Act of 1938. D 4, 7, 1.

CORRY, Ormond Charles, TVA, Commerce Dept., Knoxville, Tenn. (1928) A TVA, econ. B B.S., 1925, North Texas State Teachers Col.; M.A., 1927, Texas. D 14, 11, 4. E TVA power program: the wholesale power contracts (doctoral dissertation, Wisconsin, 1942).

COTTON, Thomas L., 60 E. 42nd St., New York City. (1939) A N. Y. Asso. of Personal Fin. Cos., dir. of soc. res., R. pub. rela. B B.S., 1917, Dartmouth. D 7, 19, 18. E Influence of consumer credit services on civilian morale. F Facts about small loans (Amer. Asso. of Personal Fin. Cos., 1942); "Public responsibility stressed," Oct., 1941, "Credit standing of the family," Jan., 1941, Personal Fin. News.

COUPER, Walter James, 568 Golden Ave., Ottawa, Canada. (1923)

COURT, Andrew T., 1517 Iroquois, Detroit, Mich. (1940) A General Motors, B. B M.B.A., 1929, Harvard. D 17, 3, 11. E Absenteeism among industrial workers under full employment. F Dynamics of automobile demand (General Motors, 1940); Men, methods, and machines in automobile manufacture (Auto Mfr. Asso., 1939).

COVER, John Higson, 5916 31st Pl., N.W., Washington, D.C. (1921) **A Office of Lend-Lease Admin., spec. asst. to deputy admin., program plan. officer, RA.** B B.S., 1915, A.M., 1919, Ph.D., 1927, Columbia. C Changes in economic welfare: Denver and Colorado (mono., Univ. of Denver Bur. of Bus. and Soc. Res.). D 8, 10, 4. E Nonmilitary economic needs of Lend-Lease countries. F Retail price behavior (Univ. of Chicago, 1935); Business and personal failure and readjustment in Chicago (Univ. of Chicago, 1933); "Some investigations in the sampling and distribution of retail prices," Econometrica, July, 1937. G WSE.

COVER, Virgil Dale, 5922 Wooten Dr., Falls Church, Va. (1932) A U. S. Dept. of Com., Pub. Util. Unit, sr. econ. anal., R. B B.S.C., 1930, Iowa; M.B.A., 1931, Northwestern; Ph.D., 1935, Illinois. C Joseph Bartlett Eastman's economic and social views on transportation problems. D 14, 1, 10.

COWAN, Donald Ross Grant, 1470 Guildhall Bldg., Cleveland, Ohio. (1925) A Republic Steel Corp., Commercial Res. Div., mgr., RB. B B.A., 1917, Queen's, Kingston, Canada; M.A., 1918, Toronto; Ph.D., 1934, Minnesota. C Some economic analyses for planning the sales program (pub. as Sales analysis from the management standpoint, Univ. of Chicago Press, 1936). D 12, 11, 17. E Present and postwar research. F "The function of management in marketing," The Annals, May, 1940; "Commercial research for postwar activities," Proceedings, 1941 Ohio Conf. of Statis. on Bus. Res., Nov., 1941. G S.

COWAN, Marcy H., 1259 E. 26th St., Brooklyn, N.Y. (1942)

COWDEN, Dudley J., 738 E. Franklin St., Chapel Hill, N.C. (1928) A Univ. of North Carolina, prof., T. B A.B., 1919, Grinnell; A.M., 1922, Chicago; Ph.D., 1931, Columbia. C Measures of exports of the United States (Columbia Univ. Press, 1931). D 4, 1, 5. E An objective method of time series analysis. F Practical business statistics (1934), Applied general statistics (1939) (both with F. E. Croxton) (1939), Exercises and problems in business statistics (1940) (Prentice-Hall). G S.

COWDRICK, Edward Sheffield, 30 Rockefeller Plaza, New York City. (1926) A Consultant in indus. rela., B. B A.B., 1904, Kansas. D 17, 18, 13. F Industrial history of the United States (Ronald Press, 1923); Manpower in industry (Holt, 1924).

COWIN, Roy Burford, 1124 N. New St., Bethlehem, Pa. (1936) A Lehigh Univ., prof., T. B A.B., 1916, M.A., 1918, Michigan. D 4, 1, 14. F Economic fallacies common among cost accountants (Nat. Asso. of Cost Accountants).

COWLES, Alfred, Cowles Commission for Res. in Econ., Univ. of Chicago, Chicago, Ill. (1940) A Cowles Com., pres., R. B A.B., 1913, Yale. D 4, 9, 5. F Common stock indexes (Principia Press, Bloomington, Ind., 1938). G WS.

COX, Alonzo Bettis, Univ. of Texas, Bur. of Bus. Res., Austin, Tex. (1923) A Univ. of Texas, Bur. of Bus. Res., TRA. B B.A., 1911, M.A., 1914, Texas; Ph.D., 1920, Wisconsin; LL.D., 1938, Abilene Christian Col. C Agricultural community development in upper Wisconsin. D 15, 12, 8. E Cotton in the economy of Tex.; foreign markets for American cotton; prices of cotton and the factors and forces which make them. F Cotton prices and markets, Services in cotton marketing (U. S. Dept. of Agric., 1926); Marketing American cotton in England (U. S. Dept. of Agric., 1928). G WE.

COX, Garfield V., Univ. of Chicago, Faculty Exch., Chicago, Ill. (1923) A Univ. of Chicago, Robert Law prof. of fin., T; South East Nat. Bank of Chicago, chmn. of bd. B A.B., 1917, Beloit; Ph.D., 1929, Chicago. C An evaluation of American business forecasts, 1918-28. D 7, 9, 5. F Appraisal of American business forecasts (Univ. of Chicago, 1929, 1930); Forecasting business conditions (with Hardy) (Macmillan, 1927); "Some distinguishing characteristics of current business recovery," A.E.R., Mar. Sup., 1936. G WS.

COX, George Clarke, 67 Broad St., New York City. (1911) A Investment counsel, B. B A.B., 1886, A.M., 1900, Kenyon; A.M., 1908, Ph.D., 1910, Harvard. C Philosophy of Richard Avenarius. D 8, 7. E Book on position of gold in international trade. F "The price of gold," N. Y. Times-Annalist, Oct. 15, 1937; "Gold—treasure or menace," Barron's Fin. Weekly, Nov. 20, 1939; editor and founder, Gold barometer, Apr. 15, 1938-June 15, 1940. G WS.

COX, Reavis, 7526 12th St., Washington, D.C. (1934) **A WPB, Div. of Civilian Supply, Services Programs Br., chief, A;** Univ. of Pennsylvania, prof. of market., TR. B A.B., 1921, Texas; Ph.D., 1932, Columbia. C Competition in the American tobacco industry (Columbia Univ. Press, 1932). D 12, 19, 11. F The sales tax in the American states (Columbia Univ. Press, 1933); The marketing of textiles (Textile Found., 1938). G W.

COX, Robert Alometh, 720 E. 32nd St., Austin, Tex. (1922)

COYNE, William J., 308 S. William St., South Bend, Ind. (1940)

CRAFTS, Prescott Clough, Jr., 56 Springfield St., Belmont, Mass. (1942) **A U. S. Naval Reserve, Sup. Corps, ensign;** Donald J. Moore, Boston, asst. to export mgr., B. B B.B.A., 1942, Boston Univ. D 8, 17, 10.

CRAIG, David Rankin, 1627 K St., N.W., Washington, D.C. (1925) A Amer. Retail Fed., pres., RAB. B A.B., 1917, Amherst; Ph.D., 1924, Columbia. C Economic condition of the printing industry

in New York City: a wage arbitration study (privately pub.). D 12, 10, 19. F "The competitive struggle for market control" (with W. K. Gabler), The Annals, 1940. G WS.

CRAIG, Glenn Horace, Montana State Col., Bozeman, Mont. (1941) A Montana State Col., asso. prof., TR. B B.A., 1930, Alberta; M.A., 1933, McGill. D 15, 1, 7. E Collective tenure in northern great plains; ranch management in Mont.; economics of conservation. F "Role of soil depletion in land valuation," Jour. of Farm Econ., Nov., 1940; "Canada's land of little rain," Land Policy Rev., Mar., Apr., 1939.

CRAMER, Edison Henry, Univ. of Colorado, School of Bus., Boulder, Colo. (1940) A Univ. of Colorado, asso. prof. of fin., T. B A.B., 1923, M.A., 1924, Ph.D., 1940, Michigan. C Denver as the financial center of the eastern Rocky Mountain region. D 9, 7, 4.

CRAWFORD, Arthur Whipple, 6325 Woodside Pl., Chevy Chase, Md. (1935) A Writer, econ. and fin. subjects. B B.A., 1906, Beloit; M.A., 1935, Ph.D., 1940, American. C Monetary management under the New Deal (Amer. Coun. on Pub. Affairs, 1940). G S.

CRAWFORD, John M., 3904 N. W. Edmunds, Washington, D.C. (1941)

CRAWFORD, Mary Mazeppa, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1937) A Indiana Univ., instr., T. B B.A., 1922, Wellesley; M.A., 1930, Ph.D., 1942, Columbia. C College folkways and student spending: a study in consumption. D 19, 1, 10. E Additional work on student spending. F "Student expenditures at Indiana University," Aug., 1938, "Student expenditures at Indiana University, 1939-40," July, 1940, Indiana Univ. News-Letter.

CRAWFORD, Robert Platt, 2212 Washington St., Lincoln, Neb. (1934) A Univ. of Nebraska, prof., T. B A.B., 1917, Nebraska; A.M., 1926, Columbia. D 1, 9, 15. F These fifty years (Univ. of Neb., 1925); The magazine article (1931), Think for yourself (1937) (McGraw-Hill). G WE.

CRENNAN, Charles Holloway, Continental Illinois Nat. Bank and Trust Co. of Chicago, Chicago, Ill. (1920) A Cont. Ill. Nat. Bank and Trust Co., econ., B. B A.B., 1913, M.A., 1914, Indiana; Ph.D., 1916, Pennsylvania. D 7, 5, 9.

CRESWELL, Charles F., 165 Broadway, Room 910, New York City. (1923)

CRIZ, Maurice, 912 S. 5th St., Springfield, Ill. (1939) A Ill. Dept. of Fin., Res. and Statis., asst. sup., R. B B.A., 1938, M.A., 1941, Chicago. D 6, 10, 7. F The use tax (Pub. Admin. Serv., 1941); "Emergency taxes in N.Y.C. since 1933," Tax Mag., Feb., 1940.

CROBAUGH, Clyde Julian, Box 185, Bethany, W.Va. (1941) A Bethany Col., Dept. of Econ., head, TRA. B A.B., 1920, A.M., 1921, Stanford; Ph.D., 1941, Pittsburgh. C Trends and comparisons in life insurance costs. D 9, 18, 10. E Influence and impact of ideas in physical and natural sciences on economic thought and action. F Casualty insurance (Prentice-Hall, 1928); Handbook of Insurance (Prentice-Hall, 1931); Annuities and their uses (George Dean, 1935). G S.

CROCKETT, Earl Clarkson, 5050 Benning Rd., S.E., Washington, D.C. (1939) A **WPB, Div. of Civ. Sup., Wholesale and Retail Policy Sec., Dist. Anal. Unit, chief, A;** Univ. of Colorado, prof. of econ., TR. B B.S., 1928, Utah; Ph.D., 1931, California. C History of California labor legislation, 1910-30. D 6, 7, 17.

CROMPTON, George, 695 Main St., Worcester, Mass. (1935)

CRONIN, John Augustine, Loyola Univ., New Orleans, La. (1938)

CRONIN, John Francis, 600 N. Paca St., Baltimore, Md. (1939) A St. Mary's Seminary, prof., T. B A.B., 1927, M.A., 1928, Ph.D., 1935, Catholic. D 5, 17, 3. F Economics and society (American Book, 1939). G S.

CRONIN, John W., 61 Shattuck Rd., Watertown, Mass. (1928)

CROOK, Wilfrid Harris, 288 S. River St., Wilkes-Barre, Pa. (1926) A Bucknell Univ., Junior Col., asso. prof., T. B B.A., 1911, M.A., 1914, Oxford; Ph.D., 1928, Harvard. C The general strike (Univ. of North Carolina Press, 1931). D 17, 20. E Social conflict patterns in Wyoming Valley, Pa. F "General strike" in Ency. of Soc. Sci.; chapter in T. N. Carver essays (Harvard Univ. Press, 1935). G S.

CROSBY, G(eorge) Reginald, 91 Lenox St., West Newton, Mass. (1925) A Soc. Sec. Bd., sr. asst. reg. rep., A. B A.B., 1922, Harvard; A.M., 1925, Columbia. D 10, 18, 8.

CROSBY, Lewis G., 148-16 Neponset Ave., Neponset, L.I., N.Y. (1941)

CROSS, Hartley William, Springfield Col., Springfield, Mass. (1931) A Springfield Col., prof. of econ., TR. B B.A., 1923, Springfield; M.A., 1924, Ph.D., 1929, Clark. C The status of British dominions. D 19, 2, 3. E History of consumers cooperation in New England.

CROSS, Ira Brown, 1454 Le Roy Ave., Berkeley, Calif. (1910) A Univ. of California, Flood Found., prof. of econ., TA. B A.B., 1905, M.A., 1906, Wisconsin; Ph.D., 1909, Stanford. C History of the labor movement in California (1935). F Essentials of socialism (1911); Domestic and foreign exchange (1923); History of banking in California (1927). G WSIE.

CROTEAU, John Tougas, St. Dunstan's Univ., Charlottetown, Prince Edward Island, Canada. (1940) A St. Dunstan's Univ. and Prince of Wales Col., prof., T. B A.B., 1931, Holy Cross; M.A., 1932, Ph.D., 1935, Clark. C The development of the mutual savings banks of Massachusetts. D 19, 1, 7. F A regional library and its readers (Amer. Asso. for Adult Educa., 1940); The Farmer Creditors' Arrangement Act in Prince Edward Island (Dalhousie Univ. Inst. of Pub. Affairs, 1940).

CROWDER, Edward Tomlin, Jr., U. S. Bur. of the Budget, Div. of Statis. Stand., State Dept. Bldg., 17th and Pennsylvania Ave., Washington, D.C. (1934)

CROWDER, Walter Frederick, Bur. of For. and Dom. Com., Washington, D.C. (1937) A Bur. of For. and Dom. Com., chief econ. anal., R; Survey of Cur. Bus., ed. B B.S., 1926, M.S., 1929, Illinois; Ph.D., 1932, Iowa. C The median stock price index. D 12, 11, 4. E Efficiency studies in distribution. F The structure of industry (TNEC Mono. No. 27, 1941); Methods of statistical analysis (Wiley, 1933). G S.

CROXTON, Fred C., 3200 16th St., N.W., Washington, D.C. (1911)

CROXTON, Frederick Emory, Columbia Univ., Hamilton Hall, New York City. (1941)

CRUM, William Leonard, 325 Littauer Center, Cambridge, Mass. (1921) A Harvard Univ., prof. of econ. B B.A., 1914, Sc.D., 1940, Williams; M.A., 1916, Ph.D., 1917, Yale. C The perturbations caused by a close approach of two asteroids (Astron. Jour., 1918). D 4, 6, 9. E War finance; structure and variability of business profits. F Corporate size and earning power (McGraw-Hill, 1938); "Cycles of commercial paper rates," Q.J.E., 1923; "Rudimentary mathematics for economists and statisticians," Q.J.E. Sup., 1938. G W.

CRUMBAKER, Calvin, Univ. of Oregon, Eugene, Ore. (1925) A Univ. of Oregon, prof. of econ., T. B B.S., 1911, Whitman; M.A., 1927, Univ. of Washington; Ph.D., 1930, Wisconsin. C Development of the long and short haul policy of the Interstate Commerce Commission. D 14, 10, 1. E Economic problems of government enterprise. F Organizing and financing modern business (Wiley, 1939); Transportation and politics (Univ. of Oregon, 1940).

CULBERTSON, William Smith, Colorado Bldg., Washington, D.C. (1936)

CULLEN, James A., 52 S. 2nd Ave., Mt. Vernon, N.Y. (1934)

CUMBERLAND, William Wilson, 120 Broadway, New York City. (1916) A Wellington and Co., partner, econ., B. B A.B., 1912, LL.D., 1937, Occidental; A.M., 1913, Columbia; Ph.D., 1916, Princeton. C Co-operative marketing (Princeton Univ. Press, 1917). D 9, 6, 8. E American individual enterprise system. F Nicaragua (Dept. of

State, 1928); "Investments and national policy of the United States in Latin America," A.E.R., Mar. Sup., 1932. G WI.

CUMMINGS, Herbert James, 8712 Colesville Rd., Silver Spring, Md. (1938) A **U. S. Dept. of State, asso. asst. to Asst. Secy. of State,** R; Univ. of Pittsburgh, instr. in econ. and acctg., T. B B.S., 1937, Pittsburgh; M.A., 1940, Northwestern. D 6, 19, 11. E Wartime control of consumer prices (doctoral dissertation). F "Review of stenographic accounting," Acctg. Rev., Mar., 1940.

CUMMINGS, Mark W., 1628 Telephone Bldg., 1010 Pine St., St. Louis, Mo. (1927)

CUNNINGHAM, Shirley Beck, 70 5th Ave., New York City. (1941) A Prentice-Hall, Inc., vice-pres. B A.B., 1905, Dartmouth.

CUNNINGHAM, William James, 28 Buckingham St., Cambridge, Mass. (1912) A Harvard Univ., prof. of transp., TRB. B A.M. (Hon.), 1921, Harvard. D 14, 10, 9. F American railways (A. W. Shaw, 1922); The present railroad crisis (Univ. of Pennsylvania Press, 1939). G WS.

CURRAN, Kenneth James, 11 Pelham St., Princeton, N.J. (1941) A Princeton Univ., asst. prof. B B.S., 1925, M.A., 1926, Ph.D., 1941, Princeton. C History of the taxation of excess profits. D 6, 10, 1. E Excess profits taxation. G S.

CURRIE, Lauchlin, 4863 Potomac Ave., Washington, D.C. (1927) A White House, admin. asst. to the President, A. B B.Sc. (Econ.), 1925, London School of Econ.; Ph.D., 1931, Harvard. C Bank assets and bank theory. D 5, 8, 6. F The supply and control of money in the United States (Harvard Univ. Press, 1934); testimony on saving and investment, TNEC reports, 1939. G WS.

CURTIS, Clifford Austin, Queen's Univ., Kingston, Ont., Canada. (1924) A Queen's Univ., prof. of econ., T. B B.A., 1922, Toronto; Ph.D., 1926, Chicago. C Canadian banking system, 1910-26. D 1, 16, 10. E Rental control and housing in Canada. G S.

CURTIS, L(ucian) Simington, 4459 Enright Ave., St. Louis, Mo. (1938)

CURTIS, Roy Emerson, Univ. of Missouri, Columbia, Mo. (1920)

CURTIS, William Randolph, 2703 Anderson Dr., Raleigh, N.C. (1935) A Unemploy. Comp. Com. of N.C., acting chmn., A. B A.B., 1930, M.A., 1931, North Carolina; Ph.D., 1935, Illinois. C Some labor problems in the cotton textile industry. D 4, 18, 17.

CURTISS, Elisabeth Armour, Wellesley Col., Wellesley, Mass. (1940) A Wellesley Col., lecturer in econ., T. B B.A., 1928, Wellesley; M.A., 1930, Columbia. D 19, 10, 14. E Trade barriers and the consumer interest (doctoral dissertation, nearing completion).

CUSACK, Lawrence A., 319 N. 30th St., Omaha, Neb. (1934) A Creighton Univ., prof. of econ., T. B B.S.C., 1922, M.A., 1930, Ph.D., 1936, Iowa. C Agricultural credit in the United States with special reference to the federal and the joint stock land banks, 1890-1936. D 7, 4, 10. F "Social security funds and our credit system," Credit and Fin. Manage., July, 1938; "Land banks," Jour. of Bus. (Univ. of Iowa), Nov., 1939, Feb., Mar., 1940. G S.

CUSHING, Morgan Bicknell, Bowdoin Col., Brunswick, Me. (1920) A Bowdoin Col., asso. prof. of econ., T. B B.A., 1917, Yale; A.M., 1922, Pennsylvania. D 7, 1, 9.

CUSICK, James, 19 S. Park St., Hanover, N.H. (1932)

CUSTARD, Harry Lewis, 618 26th St., S., Arlington, Va. (1926) A Fed. Home Loan Bank Admin., anal., B. B A.B., 1919, Syracuse; M.B.A., 1922, Harvard. D 1, 5, 6. E Unity of knowledge and the organization of thought. G S.

CUSTIS, Vanderveer, Northwestern Univ., 309 Harris Hall, Evanston, Ill. (1904) A Northwestern Univ., prof. of econ., T. B A.B., 1901, M.A., 1902, Ph.D., 1905, Harvard. C Forces in industrial consolidation. D 1, 11, 10. F Foundations of national industrial efficiency (Macmillan, 1923); State tax system of Washington (Univ. of Washington, 1916). G WSE.

CUTLER, Addison T., 1537 Ft. Davis St., S.E., Nashville, Tenn. (1938)

CUTTS, Jesse M., 3737 S St., S.E., Washington, D.C. (1941)

DADE, Emil B., Univ. of Kansas, 116 W. Admin. Bldg., Lawrence, Kan. (1923)

DADISMAN, Andrew Jackson, 305 Beverley Ave., Morgantown, W.Va. (1917) A West Virginia Univ., prof. of econ., dir. of Summer Session, TA. B B.S.A., 1914, West Virginia; M.S., 1914, Ph.D., 1924, Cornell. C Organization and management of West Virginia farms (West Virginia Univ. Agric. Exp. Sta. Bul. 187). D 14, 20, 15. E Implications of the changing population. F "Some implications of the changing population in West Virginia," Proceedings, 1942, "A changing population and its significance," 1941, Proceedings, W. Va. Acad. of Sci.; French Creek as a rural community (West Virginia Univ. Agric. Exp. Sta., 1921). G SE.

DAGGETT, Stuart, Univ. of California, Dept. of Econ., 119 South Hall, Berkeley, Calif. (1906) A Univ. of California, prof., TR. B A.B., 1903, A.M., 1904, Ph.D., 1906, Harvard. C Railroad reorganization (revised form, Houghton Mifflin, 1908). D 14, 10, 9. F Chapters on the History of the Southern Pacific (Ronald Press, 1922); Railroad consolidation west of the Mississippi River (Univ. of California Press, 1933); Principles of inland transportation (Harper, rev. 1941). G WSE.

DAHL, Randle Edwin, Fenn Col., Cleveland, Ohio. (1942) A Fenn Col., Dept. of Banking and Fin., chmn., TA. B A.B., 1929, M.A., 1933, Ph.D., 1941, Clark. C The American watch movement manufacturing industry. (abstract, Clark Univ., Oct., 1941). D 9, 6, 7. E Promotion and financing of the early watch manufacturing companies.

DAHLBERG, Arthur Olaus, 500 5th Ave., New York City. (1940)

DAILEY, Don Marcus, U. S. Savings and Loan League, 221 N. La Salle St., Chicago, Ill. (1921) A U. S. Savings and Loan League, mgr. fin res., R. B A.B., 1920, Oberlin; M.A., 1922, Ph.D., 1934, Northwestern. C Development of banking in Chicago before 1890. D 7, 4, 9. E Trends in thrift and home financing institutions. F Chicago banks as factors in money market, Banking structure of the federal reserve district, Investment banking in Chicago (Univ. of Illinois, Bur. of Bus. Res., 1929, 1930, 1931).

***DALAL, Rustomjee Dadiba,** c/o Swiss Bank Corp., 11c, Regent St., Waterloo Pl., London, S.W.1, England. (1931)

DALISAY, Amando Munsayac, 1601 Argonne Pl., N.W., Apt. 105, Washington, D.C. (1938) A **Office of Strategic Services, asst. econ.,** R. B S.B., 1937, Univ. of the Philippines; M.A., Ph.D., 1942, Harvard. C Supervised credit for low-income farm groups in the United States. D 15, 4, 1. E Far Eastern food supply problem in relation to Japanese occupation and the utilization of strategic raw materials. F "Tenancy contracts on rice farms in Nueva Ecija," Philippine Agriculturist, 1937.

DAMBRUN, Albert Carl, 4021 9th St., N.W., Washington, D.C. (1941)

DAMERON, Wilbur R., Box 486, Dover, Del. (1927)

DANHOF, Clarence H., 4111 25th St., N., Arlington, Va. (1936) A **U. S. Dept. of Agric., econ.,** R; Lehigh Univ., asst. prof., T. B A.B., 1932, Kalamazoo; A.M., 1933, Ph.D., 1939, Michigan. C The agricultural system of production in the United States, 1850-60. D 2, 15, 10. E Economic aspects of agricultural production, 1830-80. F "Farm-making costs and the 'safety-valve,' 1850-60," J.P.E., June, 1941; "Economic validity of the safety-valve doctrine," Jour. of Econ. Hist. Sup., Dec., 1941. G S.

DANKERT, Clyde Edward, Dartmouth Col., Dept. of Econ., Hanover, N.H. (1929)

DANNENBERG, Frederick Mortimer, 908 Montgomery St., Brooklyn, N.Y. (1936) A **WPB, bus. anal., R.A.;** R. B Ph.G., 1928, Brooklyn Col. of Pharmacy; B.S. (Econ.) 1936, M.B.A., 1937, New York. D 14, 10, 16. E Evolution of public utility accounting (doctoral dissertation). F "Depreciation and capital replenishment," Jour. of Acctg., Apr., 1942; "Standby equipment," Pub. Util. Fortnightly, Mar. 12, 1942; "Future of public utilities," Trusts and Estates, June, 1941.

DARR, Loren R., 222 W. Adams St., Chicago, Ill. (1941)

DASSEL, Virgil Homer, 850 Montrose Ave., Columbus, Ohio. (1930) **A** Citizens Res., Inc., dir. of res., R; Capital Univ., Dept. of Econ., T. **B** B.A. in Com., 1924, Ohio Univ.; M.A., 1929, Ohio State. **D** 6, 4, 10. **E** Analysis of operation of various departments, Columbus.

DAUER, Ernst August, FDIC, Washington, D.C. (1937) **A** FDIC, sr. econ., R. **B** B.S., 1929, M.B.A., 1930, Ph.D., 1942, Northwestern. **C** Comparative operating experience of consumer installment financing agencies and commercial banks, 1929-40. **D** 7, 9, 4. **E** Bank operations. **F** Co-author, "Stocks vs. bonds as life insurance investments during depression," Harvard Bus. Rev., Jan., 1935; "A needed reform in railroad accounting," Barron's Feb. 18, 1935; One hundred short problems in corporation finance (with Herbert E. Dougall) (Ronald Press, 1937). **G** S.

DAUGHERTY, Carroll Roop, Hunter Col., New York City. (1930) **A** Hunter Col., Dept. of Econ., head, prof., TRA. **B** A.B., 1921, Lebanon Valley; A.M., 1924, Ph.D., 1927, Pennsylvania. **C** Development of horsepower equipment in the United States (U. S. Geological Survey). **D** 17, 1, 5. **E** Monopolistic competition in the labor market. **F** Labor problems in American industry (Houghton Mifflin, rev. 1941); Economics of iron and steel industry (McGraw-Hill, 1937). **G** WSI.

DAUGHERTY, Martin Marion, Univ. of Delaware, Newark, Del. (1937) **A** Univ. of Delaware, agric. econ., R. **B** B.S., 1916, M.S., 1925, Texas A. and M.; M.A., 1927, Harvard. **D** 15, 6. **E** Farm mortgages in Kent Co., Del. **F** Highway finance (Bul. 169, May, 1931), Financing education in Delaware (Bul. 182, Nov., 1932), Analysis of farm mortgage experience in Kent County (Apr., 1942) (Univ. of Delaware, Exp. Sta.).

DA VAULT, James William, Univ. of Rochester, Dept. of Econ., Rochester, N.Y. (1935)

DAVENPORT, Donald Hills, 3075 Ordway St., N.W., Washington, D.C. (1924) **A** U. S. Bur. of Labor Statis., prin. econ., RA. **B** B.S., 1921, A.M., 1922, Ph.D., 1926, Columbia. **C** Cost of government in New York State (J. B. Lyons Co., Albany, 1926). **D** 17, 10, 4. **E** Postwar re-employment. **F** Unemployment and prospects for re-employment in Massachusetts (1936), Co-operative banks in Massachusetts (1937) (Harvard Bus. School). **G** S.

DAVEY, Harold William, 4147 Alabama Ave., S.E., Washington, D.C. (1942) **A OEM, placement officer for WLB. B** A.B., 1936, Syracuse; M.A., 1938; Ph.D., 1939, Harvard. **C** Administration discretion under the National Labor Relations Act. **D** 17, 10, 11. **E** Comparison of administrative procedure of the NLRB and WLB. **F** "Separation of functions and the National Labor Relations Board," Univ. of Chicago Law Rev., Feb., 1940.

DAVID, Paul Theodore, 1644 32nd St., N.W., Washington, D.C. (1930) **A** U. S. Bur. of the Budget, chief fiscal anal., R. **B** B.A., 1928, Antioch; M.A., 1930, Ph.D., 1933, Brown. **C** The post office and air transport. **D** 14, 10, 17. **F** The economics of air mail transportation (Brookings, 1934); co-author, Personnel administration in the federal service (President's Com. on Admin. Manage., 1937); Barriers to youth employment (Amer. Coun. on Educa., 1942). **G** S.

‡**DAVIDSON, David,** Ekonomisk Tidskrift, Upsala, Sweden. (1938)

DAVIDSON, Julius, 5914 2nd St., N.W., Washington, D.C. (1931) **A** OPA, sr. bus. anal., A. **B** A.B., 1919, Harvard. **D** 10, 4, 18.

DAVIES, George Reginald, Univ. of Iowa, Col. of Com., Iowa City, Iowa. (1925) **A** Univ. of Iowa, prof. of bus. statis., TR. **B** A.B., 1899, A.M., 1908, Des Moines; Ph.D., 1914, North Dakota. **C** Statistical measurements of the influence of environment (revised as Social environment, McClurg, 1917). **D** 4, 5, 3. **E** Recent changes in Iowa business. **F** Business statistics (with Dale Yoder) (Wiley, 1941); Methods of statistical analysis (with W. F. Crowder) (Wiley, 1933); "Probabilities in logarithmic skewed distribution" (with R. H. Smith), Jour. of Amer. Statis. Asso., Dec., 1941. **G** WSE.

DAVIES, Margaret Gay (Mrs. Godfrey), 395 S. Bonnie Ave., Pasadena, Calif. (1936) **B** A.B., 1922, A.M., 1923, Radcliffe. **D** 2, 3, 17. **E** Statute of Artificers: a study in mercantilism (doctoral dissertation). **F** "Aspects of Elizabethan apprenticeship," in Facts and factors in economic history (Harvard Univ. Press, 1932).

DAVIS, Edward Hatton, 61 Oakland Ave., Waterbury, Conn. (1902)

DAVIS, George H., 20 Exchange Pl., 55th Fl., New York City. (1936)

DAVIS, Horace Bancroft, United Shoe Workers of America, 917 15th St., N.W., Washington, D.C. (1929) **A** United Shoe Workers of Amer., tech. dir., R. **B** B.A., 1921, Harvard; Ph.D., 1933, Columbia. **C** Condition of labor in the iron and steel industry in the United States. **D** 17, 19, 2. **E** Labor in Latin America. **F** "The theory of union growth," Q.J.E., Summer, 1941; "Labor and steel," International, 1934; "Shoes: the workers and the industry," International, 1940.

DAVIS, Jean S., Wells Col., Aurora, N.Y. (1923)

DAVIS, Joseph Stancliffe, Food Res. Inst., Stanford University, Calif. (1911) **A** Food Res. Inst., dir., prof. of econ. res., TRA. **B** A.B., 1908, Ph.D., 1913, Harvard. **C** Corporations in the American colonies (pub. in Essays in the earlier history of American corporations, Harvard Univ. Press, 1917). **D** 15, 19, 8. **E** International commodity agreements; consumption economics; current developments in world wheat situation. **F** Wheat and the AAA (Brookings, 1935); On agricultural policy, 1926-38 (Food Res. Inst., 1939). **G** WSI.

DAVIS, Pearce, Hunter Col., 695 Park Ave., New York City. (1937)

DAVIS, Pierpont Van Derveer, 63 Wall St., New York City. (1912) **A** Harriman, Ripley and Co., pres., B. **B** B.A., 1905, Yale. **D** 9, 14, 7.

DAVIS, Richard Malone, Lehigh Univ., Col. of Bus. Admin., Bethlehem, Pa. (1941)

DAVIS, Sam Wesley, Jr., Dept. of Justice, Antitrust Div., Washington, D.C. (1938) **A** Dept. of Justice, Antitrust Div., econ., R. **B** B.A., 1934, M.A., 1935, Ph.D., 1938, Texas. **C** Resale price maintenance and public policy. **D** 10, 11, 12. **E** Economics and politics of fair trade (completed).

DAVIS, Shelby Cullom, Scarborough-on-the-Hudson, N.Y. (1938)

DAVIS, William C., 102 E. 22nd St., New York City. (1939)

DAVIS, William Zeller, 441 Ford St., Niles, Ohio. (1934) **A** Niles-McKinley High School, instr., T. **B** A.B., 1921, Hiram; M.A., 1926, Columbia. **D** 10, 6, 17. **F** Niles city light department (Niles Tax League, mimeo., 1936).

DAVISON, Sol, 5000 V St., N.W., Washington, D.C. (1936) **A** NLRB, asso. econ., R. **B** B.A., 1930, Wisconsin; M.A., 1932, Columbia. **D** 17, 2. **F** "Wage earner in the westward movement," Polit. Sci. Quar., 1935, 1936; Structure of A.F. of L. unions (NLRB, 1939). **G** S.

DAVISSON, Malcolm MacNiven, 1019 Granger Ave., Ann Arbor, Mich. (1940) **A** Univ. of California, asso. prof. of econ. (on leave), T. **B** A.B. 1928, California; Ph.D., 1932, Harvard. **C** A financial history of Australian railroads. **D** 6, 10, 12.

DAY, Arthur Morgan, 152 Deer Hill, Danbury, Conn. (1899)

DAY, Clive, 44 Highland St., New Haven, Conn. (1908) **A** Yale Univ., T. **B** B.A., 1892, Ph.D., 1899, Yale. **C** Economic organization in the American colonies (parts published in H. W. Farnam, Chapters in the history of social legislation). **D** 2, 3. **F** Policy and administration of the Dutch in Java (Macmillan, 1904); History of commerce (Longmans, 1907 and later revs.); Economic development in Europe (Macmillan, rev. 1942). **G** WSE.

DAY, Edmund Ezra, Cornell Univ., Ithaca, N.Y. (1907) **A** Cornell Univ., pres., A. **B** S.B., 1905, A.M., 1906, LL.D., 1937, Dartmouth; Ph.D., 1909, Harvard; LL.D., 1931, Vermont, 1937, Harvard, Pennsylvania, Syracuse. **C** Early history of the Massachusetts general property tax. **D** 3, 10, 5. **G** WSIE.

DEAN, Joel P., 213 S. Courthouse Rd., Arlington, Va. (1935) **A OPA, Fuel Rationing Br., chief of fuel rationing, A;** Univ. of Chicago, prof., T. **B** A.B., 1927, Pomona; M.B.A., 1929, Harvard; Ph.D., 1936, Chicago. **C** Statistical analysis of the behavior of costs. **D** 11, 4, 10. **E** Empirical analysis of factors determining price policy; statistical cost curves; price administration in the machinery industry. **F** Statistical determination of cost (Univ. of Chicago Press, 1936); Price policies in a war economy (Univ. of Chicago Press, 1941); The long-run behavior of costs in a chain of shoe stores (Univ. of Chicago Press, 1942).

DEAN, Prentice Northup, U. S. Tariff Com., Washington, D.C. (1924) **A** U. S. Tariff Com., prin. econ., R. **B** A.B., 1920, Princeton; M.A., 1923, American Univ. of Beirut, Lebanon. **D** 8, 7. **G** S.

DEARING, Charles Lee, Brookings Inst., Washington, D.C. (1935) **A ODT, consultant;** Brookings Inst., sr. staff, R. **B** A.B., 1929, George Washington. **D** 14, 10, 8. **F** American highway policy (Brookings, 1941); Automobile transportation in the war effort (Brookings, mono., 1942); chapter in Government and economic life, by L. S. Lyon and Associates (Brookings, 1937). **G** S.

De BARD, August Alfred, Jr., Keuka Col., Keuka Park, N.Y. (1932)

de BEERS, John S., 2335 California St., N.W., Washington, D.C. (1942) **A** U. S. Treas. Dept., Div. of Monet. Res., asso. econ., R. **B** B.A., 1937, Cornell; M.A., 1939, American. **D** 8, 7, 9. **E** Latin-American international financial problems. **F** "Tariff aspects of a federal union," Q.J.E., Nov., 1941.

De CASTRO-BARBERENA, Manuel, 208 E. 32nd St., New York City. (1942)

de CHAZEAU, Melvin Gardner, Apt. 207, Colonial Village, Arlington, Va. (1934)

DECKER, Orlady Paul, Amer. Nat. Bank and Trust Co., 33 N. La Salle St., Chicago, Ill. (1933)

DEDRICK, Calvert Lampert, Bur. of the Census, Washington, D.C. (1942) **A Wartime Civil Control Admin., Western Defense Command and Fourth Army, Statis. Div., chief, A;** Dept. of Com., Bur. of the Census, Div. of Statis. Res., chief statis., A. **B** A.B., 1924, Ph.D., 1933, Wisconsin. **D** 20, 4, 16. **F** The Madison Community (with J. L. Gillin and K. Young) (Univ. of Wisconsin Press, 1933); The enumerative check census (Vol. IV, U. S. census of partial employment, unemployment, and occupations, 1937). **G** W.

de FORD, Herman Jean, 316 S. La Salle St., Chicago, Ill. (1933) **A** H. J. de Ford and Co., partner, B. **D** 9, 6, 3.

DEGLER, Carroll M., Univ. of New Hampshire, Durham, N.H. (1942) **A** Univ. of New Hampshire, asst. prof. of econ., T. **B** A.B., 1925, Kansas; M.B.A., 1927, New York. **D** 12, 1, 9.

DEIBLER, Frederick Shipp, 2306 Marcy Ave., Evanston, Ill. (1908) **A** Northwestern Univ., prof. emeritus. **B** A.B., 1900, Hanover; A.M., 1904, Harvard; Ph.D., 1909, Wisconsin. **C** The Amalgamated Wood Workers International Union (Univ. of Wisconsin Studies). **D** 1, 17, 10. **F** Principles of economics (McGraw-Hill, rev. 1936); Effect of NRA on boot and shoe industry (Washington, D.C., 1937). **G** WSE.

DEIN, Raymond C., 1815 University Ave., S.E., Minneapolis, Minn. (1941)

DEINZER, Harvey T., 1434 Saratoga Ave., N.E., Washington, D.C. (1941)

DELAPLANE, Walter Harold, Box 4811, Duke Sta., Durham, N.C. (1938) **A** Duke Univ., Grad. School, asst. prof., asst. to dean, TA. **B** A.B., 1929, A.M., 1931, Oberlin; Ph.D., 1934, Duke. **C** The Spanish peseta, 1913-33. **D** 7, 8, 9. **E** Monetary and banking studies of South America.

DELL, Burnham North, 3 Palmer Sq., Princeton, N.J. (1925)

DEMMERY, Joseph, Univ. of Washington, Seattle, Wash. (1924) **A** Univ. of Washington, prof., T. **B** Ph.B., 1920, M.A., 1924, Chicago. **D** 5, 16, 10. **E** Text on business fluctuations. **F** "Correspondent banks and the Federal Reserve System," Univ. Jour. of Bus., June, 1924; "Westward lag in business," Univ. Jour. of Bus., Apr., 1934.

DEMOND, Helen Fairchild, 2700 Q St., N.W., Washington, D.C. (1940) **A War Ship. Admin., sr. econ., R;** Bur. of Internal Revenue, statis., R. **B** A.B., 1925, A.M., 1927, Mount Holyoke. **D** 6, 10.

DEMPSEY, Bernard William, St. Louis Univ., 221 N. Grand Blvd., St. Louis, Mo. (1932) **A** St. Louis Univ., asst. prof., T. **B** A.B., 1928, A.M., 1929, S.T.L., 1936, St. Louis; M.A., 1939, Ph.D., 1940, Harvard. **C** A comparative study in interest theory (pub. as The price of money, Amer. Coun. on Pub. Affairs, 1942). **D** 19, 6, 1. **E** Cyclical variation in income distribution. **F** Reorganization of social economy (Bruce, Milwaukee, 1937); Planned society (with others) (Prentice-Hall, 1937); "Just price in a functional economy," A.E.R., Sept., 1935.

DENISON, Edward F., 39 LeBlond Ave., Cheverly, Hyattsville P.O., Md. (1941)

DERBER, Milton, 4823 42nd St., Long Island City, N.Y. (1942) **A** NLRB, field examiner, A. **B** B.A., 1936, Clark; M.A., 1937, Ph.D., 1940, Wisconsin. **C** The new unionism and collective bargaining. **D** 17, 3, 10. **E** Democracy within trade unions.

DERNBURG, Hans J., 337 N. Pearl St., Granville, Ohio. (1938)

de SCHWEINITZ, Dorothea, 32 W. Market St., Bethlehem, Pa. (1928)

d'ESSIPRI, Michael, Washington Trust Co., Pittsburgh, Pa. (1929)

de TARNOWSKY, Ivan, 815 Maryland Ave., N.E., Washington, D.C. (1942) **A** Consulting statis. and econ., R. **B** B.S., 1919, Sorbonne, Paris. **D** 16, 18, 7. **E** A housing plan known as the equity plan.

DEUPREE, Robert Gaston, 1702 Corwin Dr., Silver Spring, Md. (1938) **A OPA, Chemical Br., econ., R;** Baylor Univ., asso. prof., T. **B** A.B., 1934, Franklin; Ph.D., 1937, Johns Hopkins. **C** The wholesale marketing of fruits and vegetables in Baltimore (Johns Hopkins Studies in Hist. and Polit. Sci., Ser. LVII, No. 2). **D** 10, 11, 12. **G** S.

de VEGH, Imre, 10 Post Office Sq., Boston, Mass. (1941) **A** Scudder, Stevens, and Clark, econ. **B** LL.D., 1928, Univ. of Budapest, Hungary. **C** The legal person. **D** 5, 8, 19. **F** The pound sterling (Scudder, Stevens, and Clark, 1939); "Savings, investment, and consumption," A.E.R., Feb., 1941; "Imports and income," Rev. of Econ. Statis., 1941.

***DEVINE, Edward Thomas,** 217 Chicago Ave., Oak Park, Ill. (1893) **A** Retired. **G** WSIE.

de VYVER, Frank Traver, 8 Sylvan Rd., Durham, N.C. (1928) **A** Duke Univ., asso. prof., T. **B** A.B., 1926, M.A., 1927, Oberlin; M.A., 1930, Ph.D., 1935, Princeton. **C** History of labor in New Jersey to 1860. **D** 17, 18, 2. **E** History of A.F.L.-C.I.O. split. **F** Development of economic society (with G. M. Modlin) (Little, Brown, 1937); Labor in the industrial South (with Starnes and Berglund) (Univ. of Virginia, 1930). **G** S.

DEWEY, Davis Rich, 985 Memorial Dr., Cambridge, Mass. (1886) **A** M.I.T., prof. emeritus. **B** A.B., 1879, LL.D., 1910, Vermont; Ph.D., 1886, Johns Hopkins. **D** 7, 2. **F** Financial history of the United States (Longmans, Green, 12th ed., 1934). **G** WS.

DEWEY, Francis H., Jr., 311 Main St., Worcester, Mass. (1915)

DEWEY, Frederick A., 39 Broadway, New York City. (1913) **A** Proprietor, B. **B** S.B., 1910, M.I.T.; Ph.D., 1915, Columbia. **C** Certain aspects of human behavior. **D** 5, 9, 6.

DEWEY, Ralph Lawrence, 4343 Davenport St., N.W., Washington, D.C. (1926) **A WPB, Transp. Sec., chief, RA and liaison;** U. S. Dept. of Agric., Bur. of Agric. Econ., Transp. Sec., prin. transp. econ., RA. **B** A.B., 1923, A.M., 1924, Ohio State; Ph.D., 1929, Michigan. **C** The long and short haul principle of rate regulation (Ohio State Univ. Press, 1935). **D** 14, 10, 5. **E** Transportation requirements of agriculture and industry in war; adequacy of transportation system in war. **F** The American transportation problem (with H. G. Moulton and Associates) (Brookings, 1933); "The Transportation Act of 1940," A.E.R., Mar., 1941. **G** S.

DEWHURST J(ames) Frederic, Twentieth Century Fund, 330 W. 42nd St., New York City. (1934)

DIAMOND, Herbert Maynard, Lehigh Univ., Bethlehem, Pa. (1942) **A** Lehigh Univ., Dept. of Econ. and Soc., head, T. **B** B.A., 1914, Ph.D., 1917, Yale. **D** 17, 20. **F** Religion and the commonweal (Harper, 1928); Credits and collections (rev. ed. of Ettinger and Golieb) (Prentice-Hall, 1927). **G** W.

DIAMOND, (Mrs.) Patricia McCarthy, 427 85th St., Brooklyn, N.Y. (1939) **A Brooklyn Col., tutor, T. B** A.B., 1937, Hunter; A.M., 1938, Columbia. **D** 1, 11, 7. **E** Monopolistic competition.

DICE, Charles Amos, Ohio State Univ., Commerce Bldg., Columbus, Ohio. (1919) **A** Ohio State Univ., prof. of bus. org., T. **B** A.B., 1905, Ohio Northern; B.D., 1908, Drew; M.A., 1911, Harvard; Ph.D., 1925, Wisconsin. **C** An introduction to a theory of consumption. **D** 7, 9, 1. **E** Money and banking (textbook). **F** The stock market (McGraw-Hill, 1927; with W. J. Eiteman, rev. 1941); New levels in the stock market (McGraw-Hill, 1929). **G** S.

DICKENS, Paul Dewitt, 3618 Oval Dr., Alexandria, Va. (1930) **A** Treas. Dept., Div. of Monetary Res., sr. econ., R. **B** A.B., 1922, Hiram; A.M., 1927, Ph.D., 1933, George Washington. **C** The transition period in American international financing. **D** 8, 10, 9. **F** The security markets (with others) (Twent. Cent. Fund, 1934); American direct investments in foreign countries, 1936 (Dept. of Com., 1938); Foreign long-term investments in the United States, 1937-39 (Dept. of Com., 1940). **G** S.

DICKINSON, Frank Greene, Univ. of Illinois, 411 Commerce Bldg., Urbana, Ill. (1923)

DICKINSON, Zenas Clark, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1920) **A** Univ. of Michigan, prof., TR. **B** A.B., 1914, Nebraska; Ph.D., 1920, Harvard. **C** Economic motives (Harvard Univ. Press, 1922). **D** 1, 17, 19. **E** Consumer accounting and budgeting (pamphlet). **F** Compensating industrial effort (1937), Collective wage determination (1941) (Ronald Press). **G** S.

DIEBOLD, William, Jr., Palisades, Rockland Co., N.Y. (1941) **A** Coun. on For. Rel.), res. asso., R. **B** B.A., 1937, Swarthmore; grad. work, 1937-38, Yale, 1938-39, London School of Econ. **D** 8, 3, 10. **F** New directions in our trade policy (Coun. on For. Rela., 1941); "The wartime use of shipping," For. Affairs, Apr., 1941.

***DIECKMANN, Adolf,** 2423 Harrison Ave., Cincinnati, Ohio. (1918)

DIETRICH, Ethel Barbara, Mount Holyoke Col., South Hadley, Mass. (1920) **A** Mount Holyoke Col., prof., T. **B** A.B., 1913, Vassar; A.M., 1914, Ph.D., 1921, Wisconsin. **C** Industrial relations in the book and job printing industry (in Industrial government, by John R. Commons). **D** 8, 2, 9. **E** Industrialization of S. Amer. **F** World trade (Holt, 1939); Far Eastern trade of the United States (Inst. of Pacific Rela., 1940); "World situation of the cotton textile industry," Int. Labor Rev., 1930. **G** S.

DIETZ, John W., 311 East Blvd., Gainesville, Fla. (1941)

DILLARD, Dudley, Univ. of Delaware, Newark, Del. (1941) **A** Univ. of Delaware, instr. in econ., TR. **B** B.S., 1935, Ph.D., 1940, California. **C** Antecedents of Keynes's General theory of employment, interest, and money. **D** 1, 19, 3. **E** Significance of Del. income data for national income studies. **F** "Keynes and Proudhon," Jour. of Econ. Hist., May, 1942; "Proudhon and the revolution of 1848," Del. Notes, 1942; "Silvio Gesell's monetary theory of social reform," A.E.R., June, 1942.

DINGOL, Solomon, 1605 Walton Ave., Bronx, New York City. (1936)

DINIC, Carl Joseph, 1 Stratford Rd., Ben Avon Heights, Pittsburgh, Pa. (1926) **A** U. S. Steel Corp. of Del., market res., RB. **B** B.S., 1926, California; M.B.A., 1930, Harvard. **D** 12, 11, 17. **F** Testimony, Anthracite rate case (I.C.C. No. 27766, 1939).

DINWIDDIE, George Summey, 317 Baronne St., New Orleans, La. (1940) **A** New Orleans Pub. Serv., Inc., Budget and Statis. Dept., head, B; Tulane Univ., lecturer in corp. fin. and invest., 1941-42. T. **B** B.B.A., 1937, Tulane. **D** 14, 4, 9.

DIRLAM, Joel B., 1909 Ringgold Pl., Philadelphia, Pa. (1942) **A** SEC, fin. anal., A. **B** A.B., 1936, Yale. **D** 14, 9, 10. **E** Security regulation under Pub. Util. Hold. Co. Act of 1935 (doctoral dissertation).

DITMARS, August G., 30 Rockefeller Plaza, Room 2500, New York City. (1939) **A** Stand. Oil of N.J., B. **B** B.S., 1935, M.A., 1938, New York; C.P.A., 1935, New York. **D** 18, 6, 5.

DITTMER, Richard William, Cold Spring Rd., Williamstown, Mass. (1940) **A Williams Col., instr., T. B** A.B., 1938, Colgate. **D** 10, 14, 11. **E** Regulation of the public utility service company (doctoral dissertation, near completion).

Di VENUTI, Biagio, 87 Bonad Rd., Brookline, Mass. (1939)

DIVINE, Thomas Francis, Marquette Univ., Johnston Hall, Milwaukee, Wis. (1939) **A** Marquette Univ., Marquette Inst. of Ind. Rela., dir., asst. prof. of econ., TA. **B** A.B., 1923, M.A., 1924, St. Louis; Ph.D., 1938, London School of Econ. **C** The theory of interest and the concept of social justice (to be pub.) **D** 1, 17, 8. **E** Economic theory from the twelfth to the sixteenth century. **F** Tariffs and world peace (Cath. Asso. for Int. Peace, 1933); "The nature of economic science and its relation to social philosophy," Amer. Cath. Soc. Rev., Oct., 1940.

DIX, Samuel Morris, 280 Broadway, New York City. (1910) **A** Townsend and Dix, partner, B. **B** B.S., 1881, M.S., 1888, New York. **D** 4.

DIXON, Frank Haigh, 123 Patton Ave., Princeton, N.J. (1894) **A** Princeton Univ., prof. emeritus. **B** Ph.B., 1892, Ph.D., 1895, Michigan. **C** State railroad control (pub. 1896). **D** 10, 14. **F** A traffic history of the Mississippi (1909); Railroads and government (1922). **G** WS.

DIXON, Roger Coit, 123 Patton Ave., Princeton, N.J. (1941) **A** U. S. Dept. of Justice, Antitrust Div., asso. econ. **B** A.B., 1936, M.A., 1940, Ph.D., 1942, Princeton. **C** Freight forwarders and their position in the transportation field. **D** 14, 10.

DIXON, Russell Ayres, Univ. of Pittsburgh, Dept. of Econ., Pittsburgh, Pa. (1928) **A** Univ. of Pittsburgh, asst. prof., TR. **B** B.A., 1925, M.A., 1930, Pittsburgh. **D** 1, 19, 2. **E** Comparison of methodology of institutional and classical economics. **F** Economics and cultural change (McGraw-Hill, 1938); Economic institutions and cultural change (McGraw-Hill, 1941).

DIZMANG, Oscar Kirk, N. 5411 Post St., Spokane, Wash. (1931) **A** Whitworth Col., Dept. of Econ., Bus. Admin., and Secy. Sci., head, prof., T. **B** B.S., 1927, Kansas State Col. of A. and A. S.; M.A., 1928, Chicago. **D** 12, 1, 2. **E** Sources of supply and areas of distribution for coal and flour in the Spokane wholesale area (doctoral dissertation, nearing completion, Chicago). **G** E.

DOCKERAY, James Carlton, James Millikin Univ., Decatur, Ill. (1934) **A** James Millikin Univ., asso. prof. of bus. admin., dir., Eve. Div.; E.S.M.D.T., local admin.; TA. **B** B.A., 1929, Ohio Wesleyan; M.A., 1931, Ph.D., 1936, Ohio State. **C** Public utility taxation in Ohio, a statistical study (pub. as Contributions in economics, No. 2, Ohio State Univ. Press). **D** 9, 4, 6. **F** "Natural gas, utilization and costs," Jour. of Land and Pub. Util. Econ., Aug., 1932; Modern corporation finance (with W. H. Husband) (R. D. Irwin, 1942). **G** S.

DODD, David Le Fevre, Columbia Univ., 414 School of Bus., New York City. (1922) **A** Columbia Univ., asso. prof. of fin., TA. **B** B.S., 1920, Pennsylvania; M.S., 1921, Ph.D., 1930, Columbia. **C** Stock watering: the judicial valuation of property for stock-issue purposes (Columbia Univ. Press, 1930). **D** 9. **F** Security analysis (with Benjamin Graham) (McGraw-Hill, rev. 1940). **G** S.

DODD, Paul A., Univ. of California, Dept. of Econ., Los Angeles, Calif. (1929)

DOLBEARE, Harwood Burrows, Box 2715, Univ. Sta., Gainesville, Fla. (1923) **A** Univ. of Florida, prof. of fin., T. **B** A.B., 1921, Wesleyan. **D** 7, 8, 9. **E** Development of banking in Fla. since the Civil War. **F** Forewarnings of bank failure (Univ. of Florida Pub., Bus. Admin. Ser., 1931); "Fifty years of state banking in Florida," Southern Banker, May, 1939; A record of fifty years of state

banking in Florida in Annual report of State Comptroller, 1940.

DOLLEY, James Clay, Univ. Sta., Austin, Tex. (1928) **A** Univ. of Texas, prof., T. **B** A.B., 1919, McKendree; A.M., 1923, Illinois; Ph.D., 1928, California. **C** Holding company control of the electric light and power industry in 1927. **D** 9, 7, 8. **E** Analysis of investment securities (textbook). **F** Principles of investment (Harper, 1940); "Common stock split-ups," Harvard Bus. Rev., Apr.-Oct., 1933; "Industrial advance program of the Federal Reserve System," Q.J.E., Feb., 1936.

DOMASHEVITSKY, Joshua, Harvard Univ., Dept. of Econ., Cambridge, Mass. (1942) **A** Harvard Univ., teaching fellow, T. **B** A.B., 1939, California at Los Angeles; M.A., 1941, Michigan. **D** 6, 8, 10.

DONALD, William John Alex, 155 E. 44th St., New York City. (1912) **A** Nat. Elec. Mfrs. Asso., managing dir., A. **B** A.B., 1910, McMaster; Ph.D., 1914, Chicago. **C** The Canadian iron and steel industry (Houghton Mifflin). **D** 11, 12, 16. **F** Trade associations (1933), Handbook of business administration (1931) (McGraw-Hill). **G** WE.

DONALDSON, David Neill, Colorado State Col., Ft. Collins, Colo. (1929) **A** Colorado State Col., asso. prof., T. **B** B.S., 1926, M.S., 1927, Kansas State Col. **D** 1, 7, 12. **F** "Gold movements," Min. and Metal. Jour., Oct.-Nov., 1937; A study of wheat storage in Colorado (Agric. Exp. Sta. Report, 1931); "Do present trends in teaching of economics jeopardise future value of research," Jour. of Farm Econ., Nov., 1936.

DONALDSON, Elvin Frank, Ohio State Univ., Commerce Bldg., Columbus, Ohio. (1931) **A** Ohio State Univ., asso. prof., T. **B** B.S., 1925, M.A., 1927, Ph.D., 1933, Ohio State. **C** Liability of corporate directors for negligence. **D** 9, 10. **F** Business organization and procedure (1938). Problems in corporation finance (1940) (McGraw-Hill); Ohio cases on negotiable instruments (H. L. Hedrick, 1940).

DONALDSON, John, George Washington Univ., Washington, D.C. (1925) **A** George Washington Univ., prof. of polit. econ.: TR. **B** B.S., 1910, Maryland; Ph.D., 1914, Johns Hopkins. **C** State administration in Maryland (Johns Hopkins Press, 1916). **D** 8, 1, 16. **E** International economics of war; text on world economics. **F** International economic relations (Longmans, 1928); The dollar (Oxford Univ. Press. 1937). **G** WSI.

DONALDSON, McPherrin Hatfield, 685 Commonwealth, Boston, Mass. (1925) **A** Boston Univ., Col. of Bus. Admin., TR. **B** B.A., 1910, M.A., 1911, Ph.D., 1921, Denver; B.A., 1913, Oxford. **C** War work in two Austrian prison camps (briefed in American Oxonian, Apr., 1918). **D** 1, 17, 6. **E** Labor trends; students tests of jobs and motives; business semantics; economics for workmen and engineers. **F** Labor problems in the United States (Longmans. Green, 1939). **G** S.

DONHAM, Wallace Brett, Dean's House, Soldiers Field, Boston, Mass. (1909)

DONNAHOE, Alan Stanley, 1304 State-Planters Bank Bldg., Richmond, Va. (1940) **A** Richmond Chamber of Com., dir. of res., R. **B** Member, North Carolina Bar. **D** 4, 11, 6. **E** Demand elasticity of cigarettes and other tobacco products; mathematical appraisal of risk in interest rates.

DONNELLEY, Thomas Elliott, 350 E. 22nd St., Chicago, Ill. (1934) **A** R. R. Donnelley and Sons Co., chmn. of bd., A. **B** B.A., 1889, Yale. **D** 17, 1. **G** W.

DONOVAN, Clement Harold, Box 2032. Univ. Sta., Gainesville, Fla. (1933) **A** Univ. of Florida, asso. prof., T. **B** B.S., 1931, St. Lawrence; Ph.D., 1940, North Carolina. **C** Readjustment of state and local fiscal relations in North Carolina. **D** 6, 5, 10. **E** Fiscal situation in Fla. **F** A decade of federal expenditures in Florida (Univ. of Florida, Bur. of Econ. and Bus., Jan., 1942).

DONOVAN, Elizabeth Whitbeck (Mrs. Clement H.), Box 2032, Univ. Sta., Gainesville, Fla. (1941)

DOODY, Francis Stephen, 81 East St., Claremont, N.H. (1942) **A U. S. Naval Reserve, ensign. B** A.B., 1938, Tufts; A.M., 1940, Harvard. **D** 17, 1, 5. **F** "Modern economics and the introductory course" (with R. Clemence). A.E.R., June, 1942.

DORFMAN, Joseph, Columbia Univ., Dept. of Econ., New York City. (1939)

DORIOT, Georges Frederic, Harvard Univ., Grad. School of Bus. Admin., Morgan Hall, Soldiers Field, Boston, Mass. (1926)

DOSS, Robert L., U. S. Dept. of Labor, Wage and Hours Div., 701 Fed. Office Bldg., Houston, Tex. (1941)

DOUGALL, Herbert Edward, Northwestern Univ., School of Com., Evanston, Ill. (1927) **A** Northwestern Univ., School of Com., Undergraduate Div., dir., asso. prof. of fin., TA. **B** B.A., 1925, Toronto; M.B.A., 1926, Ph.D., 1930, Northwestern. **C** Government influences on the Canadian railway industry. **D** 9, 14, 7. **E** Railroad finance and reorganization. **F** Co-author, Corporate financial policy (Prentice-Hall, 1940). **G** SE.

DOUGLAS, (Mrs.) Dorothy W., 54 Prospect St., Northampton, Mass. (1927)

DOUGLAS, George Anthony, Sterling Col., Sterling, Kan. (1937) **A** Sterling Col., prof., TR. **B** A.B., 1926, Michigan; Ph.M., 1930, Wisconsin; Ph.D., 1939, Johns Hopkins. **C** Economic history of Frederick County, Maryland, to 1860. **D** 3, 17, 8. **G** S.

DOUGLAS, Paul Howard, Univ. of Chicago, Chicago, Ill. (1915)

DOUTY, Harry Mortimer, 5016 42nd St., N.W., Washington, D.C. (1941) **A** U. S. Dept. of Labor, Bur. of Labor Statis., sr. econ., R. **B** A.B., 1932, Duke; M.A., 1932, Columbia; Ph.D., 1936, North Carolina. **C** The North Carolina industrial worker, 1880-1930. **D** 17, 1, 2. **E** Wage research. **F** "The problem of trade union structure in the United States," S.E.J., Apr., 1937; Wage and hour legislation for the South (Univ. of North Carolina Press, mono., 1937); "Minimum wages in the seamless hosiery industry," S.E.J., Oct., 1941.

DOWELL, Austin Allyn, Univ. Farm, St. Paul, Minn. (1941) **A** Univ. of Minnesota, prof. of agric. econ., TR. **B** B.S.A., 1915, Iowa State Col.; M.S., 1925, Ph.D., 1932, Minnesota. **C** The advantages and disadvantages of Minnesota agriculture in world competition (see, The American farmer and the export market, with O. B. Jesness, Univ. of Minnesota Press, 1934). **D** 15, 12, 8. **E** Factors affecting farm land values; marketing livestock and meats. **F** Livestock marketing (with Knute Bjorka) (McGraw-Hill, 1941); numerous Minn. Agric. Exp. Sta. buls., 1938-42. **G** W.

DOWNEY, John O., Gen. Motors Corp., 1775 Broadway, New York City. (1924)

DOWRIE, George William, 421 El Escarpado, Stanford University, Calif. (1916) **A** Stanford Univ., Grad. School of Bus., prof. of fin., T. **B** A.B., 1901, LL.D., 1941. Lake Forest; M.A., 1907, Chicago; Ph.D., 1913, Illinois. **C** The development of banking in Illinois (Univ. of Illinois Studies in Soc. Sci., 1914). **D** 9, 7. **F** American monetary and banking policies (Longmans, 1930); Money and banking (Wiley, 1936); Investments (with D. R. Fuller) (Wiley, 1941). **G** WS.

DOZIER, Howard Douglas, Silver Spring, Md. (1918)

DRAPER, Ernest Gallaudet, Federal Reserve Bldg., Washington, D.C. (1921) **A** Fed. Res. Sys., Bd. of Gov., member. A. **B** B.A., 1906. M.A., 1936, Amherst. **D** 7, 6, 8. **F** Joint author, Can business prevent unemployment? (A. Knopf, 1925). **G** WS.

DREIMAN, Lawrence S., 3429 Holmes Ave., S., Minneapolis, Minn. (1940) **A OPA, econ., R. B** B.A., 1935, M.A., 1938, Minnesota. **D** 10, 14, 1. **F** "The Winnipeg hydro-electric system," Jour. of Land and Pub. Util. Econ., Nov., 1938, and Feb., 1939.

DRESSLER, Boris Gregory, 622 W. 141st St., New York City. (1941) **A** Col. of the City of New York, instr., T. **B** Cand. E.Sc., 1913, Kiev Commerce Inst. **D** 7, 8, 9. **E** Trade with Russia during the twentieth century. **F** Co-author, Manual of economics for teachers and students (Macmillan, 1938).

DRIVER, John C., Burning Tree Ct., Bradley Hills Grove, Bethesda, Md. (1929) **A** U. S. Treas.

Dept., prin. econ. anal., R. **B** A.B., 1928, California. **D** 10, 4, 6. **G** S.

DRUCKER, Adolf Bertram, 2121 H St., N.W., Washington, D.C. (1939) **A** American Univ., lecturer in econ., TR. **B** Dr. jur. et rer. pol., 1899, Univ. of Vienna. **D** 3, 8, 10. **E** Regionalism and world organization; postwar economic relations; postwar financing of trade.

DRURY, Horace Bookwalter, 5025 Wisconsin Ave., Washington, D.C. (1915) **A WPB, prin. econ., R. B** A.B., 1910, Otterbein; A.M., 1913, Ph.D., 1915, Columbia. **C** Scientific management (Columbia Univ. Press, rev. 1922). **D** 11, 17. **E** Wage stabilization. **F** The twelve-hour shift in industry (Dutton, 1922); joint author, Industrial price policies and economic progress (Brookings, 1938). **G** S.

DRUTZU, S(erban) Theodore, Ebasco Services, Inc., 2 Rector St., New York City. (1928) **A** Ebasco Services, rate engr., econ., RA. **B** B.A., "Union" State Col., Focshani, Rumania; M.E., 1916, Tech. Inst., Charlottenburg-Berlin; M.A., 1928, Columbia. **D** 14, 10, 4.

DUBLIN, Mary, 3234 N St., N.W., Washington, D.C. (1938)

Du BRUL, Stephen McKenzie, General Motors Corp., Detroit, Mich. (1933) **A** General Motors Corp., econ., B. **B** A.B., 1923, Michigan. **E** Industrial sickness and absenteeism as a function of working hours and weekly incomes. **F** "An analysis of 'Industrial prices and their relative inflexibility, by Gardiner C. Means,'" Jour. of Market., Apr., 1939; The dynamics of automobile demand (General Motors Corp., 1939); "The pyramiding of false investment values and its banking consequences," New York Times-Annalist, Feb., 1932. **G** S.

DUE, John F., Univ. of Utah, School of Bus., Salt Lake City, Utah. (1941)

DUERR, William A., Appalachian Forest Exp. Sta., Fed. Bldg., Asheville, N.C. (1941)

DUFFUS, William McGlashan, 3711 35th St., N.W., Washington, D.C. (1917)

DUFFY, James Lennon, Holy Cross Col., Worcester, Mass. (1938) **A** Holy Cross Col., asst. prof., T. **B** A.B., 1925, M.A.(Phil.), 1926, Boston Col.; S.T.L., 1932, Weston; M.A.(Econ.), 1941, Clark. **D** 10, 1, 7.

DUGAN, James E., Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1942) **A** Univ. of Minnesota, instr., RT. **B** B.A., 1936, M.A., 1938, Minnesota. **D** 19, 5, 4. **E** Demand for housing in relation to family income and national income (doctoral dissertation).

DUGGAN, John Joseph, Jr., 65 Broadway, New York City. (1941)

DUGGAR, George S., Presidential Gardens, Alexandria, Va. (1941) **A** Nat. Res. Plan. Bd., asso. econ., RA. **B** B.A., 1936, M.A., 1937, Wisconsin; grad. work, Harvard. **D** 16, 6, 10. **E** Public works planning in New York City.

DULAN, Harold Andrew, Box 210, Faculty Exch., College Station, Texas. (1942) **A** Texas A. and M. Col., asst. prof., T. **B** B.B.A., 1936, M.B.A., 1937, Texas; C.P.A., 1941, Texas. **D** 1, 9, 4. **E** Adaptation of the statistical method of least squares to budgetary control.

DULLES, (Mrs.) Eleanor Lansing, 2824 Chain Bridge Rd., Washington, D.C. (1927) **A BEW, prin. soc. sci. anal., R;** Soc. Sec. Bd. **B** A.B., 1917, M.A., 1920, Bryn Mawr; M.A., 1924, Ph.D., 1926, Radcliffe. **C** The French franc (Macmillan, 1928). **D** 8, 5, 17. **E** International financial institutions. **F** The Bank for International Settlements at work (Macmillan, 1932); Repression and reconstruction (Univ. of Pennsylvania, 1936); "Evolution of reparation ideas" in Historical essays in honor of E. F. Gay. **G** S.

DUMMEIER, Edwin F., College Station, Pullman, Wash. (1922) **A** State Col. of Washington, prof. **B** A.B., 1918, Louisiana State; M.A., 1921, Univ. of Colorado; Ph.D., 1926, Chicago. **C** The marketing of Pacific coast fruits in Chicago. **D** 1, 15, 8. **E** Agricultural finance: readjustments in agricultural co-operatives in Washington. **F** Economics with applications to agriculture (with R. B. Heflebower) (McGraw-Hill, rev. 1940); Financing co-operative marketing of farm products in Washington (1935), Co-operative purchasing in Washington (1936) (Agric. Exp. Bul.). **G** W.

DUNCAN, Acheson Johnston, 137 Jefferson Rd., Princeton, N.J. (1926)

DUNCAN, Carson S., 902 Transportation Bldg., Washington, D.C. (1915)

DUNCAN, Delbert James, Northwestern Univ., School of Com., Evanston, Ill. (1926) **A** Northwestern Univ., School of Com., prof., T. **B** B.S., 1918, Utah; M.B.A., 1921, Harvard; Ph.D., 1935, Northwestern. **C** Control of stock shortages in department stores. **D** 12, 11, 19. **F** Co-author, Retailing: principles and methods (R. D. Irwin, 1941). **G** SE.

DUNCAN, Julian Smith, American Consulate General, Sao Paulo, Brazil, So. Amer. (1928) **A** Dept. of State, jr. econ. anal., R; T. **B** B.A., 1918, Mississippi; B.D., 1924, Emory; Ph.D., 1932, Columbia. **C** Public and private operation of railways in Brazil (Columbia Univ. Press, 1932). **D** 10, 14, 8. **E** Transportation planning in Brazil; relation of state to national planning in Brazil. **F** "British railways in Argentina," Polit. Sci. Quar., Dec., 1937; "Flexible railway freight rates," Jour. of Amer. Statis. Asso., Sept., 1936; "Institutional vs. technological factors in wood consumption," Jour. of Forestry, Mar., 1938.

DUNCAN, Kenneth, 1100 Harvard Ave., Claremont, Calif. (1915) **A** Pomona Col., prof. of econ., T. **B** B.A., 1910, Wabash; M.A., 1915, Wisconsin; Ph.D., 1923, Michigan. **C** Equipment obligations (Appleton, 1924). **D** 3, 8, 6. **E** Industrialization in Latin America. **F** Essentials of economics (Commercial Press, Shanghai, 1914). **G** SE.

DUNCAN, (Mrs.) Virginia D. Reeve, 2514 Q St., N.W., Washington, D.C. (1940) **A WPB, asso. econ., R. B** A.B., 1939, A.M., 1942, George Washington. **D** 10, 6, 5. **E** Postwar planning in agricultural-industrial relations.

DUNCOMBE, Henry Lyon, Jr., Dartmouth Col., Amos Tuck School, Hanover, N.H. (1938) **A** Dartmouth Col., Amos Tuck School, asst. dean, asst. prof. of bus. statis., TA. **B** A.B., 1934, Chicago; M.A., 1938, Northwestern. **D** 17, 4, 20. **E** Reemployment problem of the older worker (doctoral dissertation).

DUNFORD, C. S., 705 Sunset Lane, East Lansing, Mich. (1939)

DUNHAM, Scott Henry, 1416 Arch St., Berkeley, Calif. (1934) **A** John F. Forbes and Co., partner, A; Univ. of California, Extension Div., instr. in taxation, TRA. **B** B.S., 1928, Utah. **D** 6, 4, 9. **F** "Relief provisions of the Excess Profits Tax Act," Amer. Inst. of Accountants, 1941.

DUNKMAN, William Edward, 2321 N. Wakefield St., Arlington, Va. (1926) **A WPB, sr. ind. spec., R;** Univ. of Rochester, asso. prof., T. **B** Com. Eng., 1926, Cincinnati; B.S., 1928, Ph.D., 1933, Columbia. **C** Qualitative credit control (Columbia Univ. Press, 1933). **D** 7, 5, 8. **E** Interdistrict relationships of the Federal Reserve banks. **F** Question on money and banking (Columbia Univ. Press, 1940). **G** SE.

DUNLOP, John Thomas, Harvard Univ., Dept. of Econ., Cambridge, Mass. (1941) **A** Harvard Univ., faculty instr., T. **B** A.B., 1935, Ph.D., 1939, California. **C** Movements of wage rates in the business cycle. **D** 1, 17, 11. **E** Wage policies of trade unions; industrial and labor markets. **F** "Wage policies of trade unions," A.E.R., Mar. Sup., 1942; "Price inflexibility and the degree of monopoly," Q.J.E., 1939; Industrial wage rates, labor costs, and price policies (TNEC, Mono. 5). **G** S.

DUNN, Cecil Letts, Occidental Col., Dept. of Econ., Los Angeles, Calif. (1942) **A** Occidental Col., Dept. of Econ., instr., T. **B** B.A., 1930, Southern California; M.A., 1932, Ph.D., 1942, Claremont. **C** A history and appraisal of the California state relief administration. **D** 18, 6, 8. **E** Public expenditures as a component of the income of the state of California.

DURAND, David, 501 Highland Rd., Ithaca, N.Y. (1941) **A U. S. Maritime Com., asst. econ., R. B** A.B., 1934, Cornell; A.M., 1938, Ph.D., 1941,

Columbia. **C** Risk element in consumer installment financing (Nat. Bur. of Econ. Res., 1941). **D** 4, 9, 1. **E** Long- and short-term corporate bond issues (Nat. Bur. of Econ. Res. study; nearly complete).

DURAND, E(dward) Dana, 3613 Norton Pl., N.W., Washington, D.C. (1898) **A** U. S. Tariff Com., member, A. **B** A.B., 1893, Oberlin; Ph.D., 1896, Cornell; LL.D., 1942, Yankton. **C** The finances of New York City (Macmillan). **D** 8, 4, 11. **E** Tariff Com. reports. **F** Director, 1910 census, editor, Statistical abstract of the United States, 1925-30; American industry and commerce (Ginn, 1930); The trust problem (Harvard Univ. Press, 1913). **G** WSIE.

DURHAM, Walter Albert, Jr., 3761 N.E. Milton St., Portland, Ore. (1938) **A** Bonneville Power Admin., econ., R. **B** B.A., 1932, Reed; A.M., 1933, Clark; M.S. 1940, Denver. **D** 6, 14, 10. **E** Payments in lieu of taxes on publicly owned electric utilities. **F** "Revenue possibilities of the personal income tax" (with Grover W. Ensley), Nat. Tax Asso. Bul., May, 1940; "Japanese camphor monopoly," Pacific Affairs, Sept., 1932.

DUTCHER, Jessie R., 1404 Pacific St., Brooklyn, N.Y. (1923)

DUTTON, Henry Post, 2242 Pioneer Rd., Evanston, Ill. (1935) **A WPB, TWI, Chicago Div., consultant;** Illinois Inst. of Tech, Eve. Div., dean, Ind. Engr. Dept., chmn.; Northwestern Univ., prof. of bus. manage.; TA. **B** B.E.E., 1914, Michigan. **D** 11, 13, 17. **F** Principles of organization as applied to business (McGraw-Hill, 1931); Factory management (Macmillan, 1924); Business organization and management (McGraw-Hill, 1925). **G** E.

DYE, Earl Vincent, 332 Arbor Way, State College, Pa. (1920) **A** Pennsylvania State Col., asso. prof., T. **B** A.B., 1910. Columbia. **D** 7, 1, 8.

DYKSTRA, David, 606 E. 7th St., Hastings, Neb. (1928) **A** Hastings Col., T. **B** B.A., 1924, M.A., 1925, South Dakota. **D** 14, 1, 2. **E** Problem of weak railroads (doctoral dissertation).

EAKENS, Robert Henry Seale, 727 N. Oakland St., Arlington, Va. (1941) **A OPA, Fuels Div., Petroleum Br., econ. B** B.A., 1933, M.A., 1937, Texas. **D** 11, 7, 4. **E** Determination of prices in the petroleum industry (doctoral dissertation).

EAKIN, Franzy, 264 N. Summit Ave., Decatur, Ill. (1936)

EARLEY, James Stainforth, OPA, Price and Econ. Pol. Br., Washington, D.C. (1935) **A OPA, asst. chief;** Univ. of Wisconsin, asso. prof. of econ. **B** B.A., 1932, Antioch; M.A., 1934, Ph.D., 1939, Wisconsin. **C** The British cheap money program, 1932-37. **D** 7, 1, 10. **F** British wartime price control, 1939-41 (OPA, 1942); "Economic problems of price control and the Emergency Price Control Act of 1942," Wis. Law Rev., May, 1942; "British wartime control of prices," Law and Contemp. Prob., Winter, 1941-42.

EASTWOOD, R(obert) Parker, Columbia Univ., School of Bus., New York City. (1941) **A** Columbia Univ., asst. prof. of bus. statis., T. **B** B.S. in B.A., 1922, M.A., 1923, Nebraska; Ph.D., 1940, Columbia. **C** Sales control by quantitative methods (Columbia Univ. Press, 1940). **D** 4, 12, 11.

EAVES, Lucile, 41 Clark Rd., Brookline, Mass. (1911)

EBERHART, E. Kingman, 218 E. Bowman St., Wooster, Ohio. (1930)

EBERLE, George Jacquin, 20030 Wells Dr., Canoga Park, Calif. (1916) **A** Eberle Econ. Service, exec. dir.; Associated Telephone Co., gen. com. engr.; RA. **B** B.A., 1914, Wisconsin. **D** 14, 12, 20. **E** Book on public utility management and administration (with M. G. Glaeser). **F** "Value-of-the-service factor in utility rate making," Pub. Util. Fortnightly, Mar. 12, 26, Apr. 9, 1936; "Population estimates, etc., and economic planning," Jour. of Amer. Statis. Asso., Dec., 1938; Los Angeles business district: an economic appraisal (Pacific Southwest Academy, 1941).

EBERSOLE, J(ohn) Franklin, 222 Morgan Hall, Soldiers Field, Boston, Mass. (1932) **A** Harvard Univ., Grad. School of Bus. Admin., Edmund Cogswell Converse prof. of banking and fin., T. **B** Ph.B., 1907, Chicago; A.M., 1909, Harvard. **D** 7, 6, 9. **E** Profits in banking. **F** "The money management powers of the Treasury and Federal Reserve Banks," Harvard Bus. Rev., Autumn, 1936; "The influence of interest rates upon entrepreneurial decisions in business—a case study," Harvard Bus. Rev., Autumn, 1938; Bank management—a case book (McGraw-Hill, 3rd ed., 1940). **G** WS.

EBY, Barnett Sanford, St. Paul Presbyterian Church, 50th and Baltimore Ave., Philadelphia, Pa. (1940) **A** St. Paul Presbyterian Church, pastor. **B** M.A., 1942, Princeton. **D** 2, 17, 10. **E** Ethical aims in economic endeavor.

ECKER-RACZ, L. László, 1318 24th St., S., Arlington, Va. (1936) **A** Treas. Dept., Div. of Tax Res., asst. dir., R. **B** A.B., 1930, Ph.D., 1935, Harvard. **C** Financial reconstruction of Hungary. **D** 6, 18. **G** S.

ECKERT, James Bernard, 2232 Hall Pl., N.W., Washington, D.C. (1938) **A OPA,** A. **B** A.B., 1934, Oberlin; M.A., 1936, Cincinnati. **D** 7, 10, 1.

ECKLER, A(lbert) Ross, 3643 Brandywine St., N.W., Washington, D.C. (1929) **A** Bur. of the Census, econ. statis., chief, R. **B** A.B., 1922, Hamilton; A.M., 1928, Ph.D., 1934, Harvard. **C** The statistics of the electric light and power industry: a survey and a program. **D** 17, 4, 14. **E** Analysis of 1940 census data on employment and income. **F** "Occupational changes in the United States, 1850-1920," Rev. of Econ. Statis., Feb., 1930; "A measure of the severity of depressions, 1873-1932," Rev. of Econ. Statis., May, 1933; "Present control station capacity in the electric light and power industry," Harvard Bus. Rev., Autumn, 1935. **G** S.

*__EDDY, Sarah J.,__ Bristol Ferry, R.I. (1893)

EDIE, Lionel Danforth, 20 Exchange Pl., New York City. (1924) **A** Lionel D. Edie and Co., pres., B., **B** B.S., 1915, M.S., 1916, LL.D., 1934, Colgate; Ph.D., 1927, Indiana. **C** Gold production and distribution (Indiana Univ. Press). **D** 7, 5, 6. **E** Postwar economic conditions. **F** Economics, principles and problems (Crowell, 1926); The banks and prosperity (Harper, 1931); Easy money (Yale Univ. Press, 1937). **G** WSI.

EDMINSTER, Lynn Ramsay, 4314 Klingle St., N.W., Washington, D.C. (1923) **A** Dept. of State, spec. asst. to Secy. of State, A. **B** A.B., 1916, Harvard; Ph.D., 1930, Brookings. **C** See **F. D** 8, 15, 2. **F** Co-author, International control of raw materials (Brookings, 1930); The cattle industry and the tariff (Brookings, 1926). **G** WS.

EDMISTON, Henry Houx, Fed. Res. Bank of St. Louis, St. Louis, Mo. (1942) **A** Fed. Res. Bank of St. Louis, asst. vice-pres. **B** A.B., 1928, Missouri; A.M., 1929, Washington Univ. **D** 7, 5, 6. **F** America watches her gold (with J. H. Rogers) (Yale Univ. Press, 1931); "Government credit agencies annual review, 1939-40," Fed. Res. Bul., Apr., 1940-41.

§**EDWARDS, Corwin D.,** 3200 Idaho Ave., N.W., Washington, D.C. (1925) **A** Dept. of Justice, Antitrust Div., Policy Bd., chmn., RA; **Harvard Univ., visiting lecturer, T. B** A.B., 1920, Missouri; M.A., 1924, Oxford; Ph.D., 1928, Cornell. **C** First international workingmen's association. **D** 11, 10, 1. **E** Forecast of conditions affecting antitrust policy at the end of the war. **F** "Can the antitrust laws preserve competition?" A.E.R., Mar. Sup., 1940; "Types of differential pricing," Jour. of Market., Apr., 1942; "Public policy toward restraints of trade by labor unions: an economic appraisal," A.E.R., Mar. Sup., 1942. **G** WS.

EDWARDS, George William, 41 Montrose Rd., Scarsdale, N.Y. (1922) **A** Col. of City of New York, prof., chmn. of dept., TA. **B** A.B., 1911, City of New York; M.A., 1913, Ph.D., 1917, Columbia. **C** New York as an eighteenth century municipality (Columbia Univ. Studies, No. 178). **D** 2, 9, 7. **F** "Myth of the affiliate," Jour. of Amer. Statis. Asso., June, 1942; Evolution of finance capitalism (Longmans, Green, 1938); Capitalism, expansion, employment and economic stability (Brookings, 1940). **G** WS.

EDWARDS, Richard Elbert, 50 N. Hood St., Peru, Ind. (1914)

EFFINGER, R(obert) Craig, Irving Trust Co., 1 Wall St., New York City. (1915)

EFROYMSON, Clarence Walter, 41 W. Washington St., Indianapolis, Ind. (1938) **A OPA, econ., R;** Butler Univ., asso. prof., T. **B** A.B., 1919, Harvard; Ph.D., 1932, Univ. of Vienna. **C** Die beziehungen Oesterreichs zu den Vereinigten Staaten waehrend des vormaerz. **D** 19, 2, 1. **E** Economic problems of the consumer.

EGLE, Walter Paul, Ohio State Univ., Dept. of Econ., Columbus, Ohio. (1935) **A** Ohio State Univ., asst. prof. **B** Ph.D., 1930, Univ. of Freiburg, Germany. C Neutral money (Jena, 1933). **D** 7, 5, 6. **E** Neglected factors in current textbooks on war. **F** "Money and production," "Saving, investment, and crises," J.P.E., 1935. **G** S.

EHRHORN, Oscar W., U. S. Court House, Foley Sq., New York City. (1909)

EHRICKE, Karl Nicholas, Thomas A. Edison, Inc., Orange, N.J. (1941) **A** Thomas A. Edison, Inc., statis., A. **B** B.S., 1918, Cornell. **D** 5, 11, 13. **E** Statistical cost functions.

EHRLICH, Otto H., 123 W. 74th St., New York City. (1941) **A** Brooklyn Col., instr. in econ., TR. **B** Doktor der Rechts und Staatswissenschaften, 1919, Univ. of Vienna. **D** 10, 11, 1. **E** Visual presentation of economics of war. **F** Economic cartoons on inflation, Survey Graphic, May, 1942, ff.

‡**EINAUDI, Luigi,** via Lamarmora, 60, Turin, Italy. (1926)

EISENBERG, Gerson Gutman, 6317 Park Heights Ave., Baltimore, Md. (1941) **B** B.A., 1930, George Washington. **D** 6, 9, 7. **E** Property, corporate, and income taxation in the revenue system of Maryland (master's thesis).

EISENSTADT, Naum Pinchot, 1310 Randolph St., N.W., Washington, D.C. (1941) **A OPA, sr. statis. draftsman, RA;** AB. **B** B.A., 1940, New York. **D** 17, 11, 19. **E** Stabilized democracy in the American labor movement.

EITEMAN, Wilford John, 126 Pinecrest Rd., Durham, N.C. (1929) **A OPA, sr. econ., A;** Duke Univ., prof. of econ., T. **B** A.B., 1926, M.A., 1928, Ohio Wesleyan; Ph.D., 1931, Ohio State. **C** A theory of stock prices. **D** 9, 11, 5. **E** Corporate financial methods. **F** The stock market (McGraw-Hill, 1941); "Economics of brokers loans," A.E.R., Mar., 1932; Chaps. IX and X in The security markets (Twentieth Cent. Fund, 1935). **G** WS.

EKEBLAD, Frederick Alfred, R.F.D., Putnam Ave., Chepachet, R.I. (1942) **A** Northwestern Univ., instr., T. **B** A.B., 1938, M.A., 1941, Brown. **D** 4, 5, 1.

EKLAND, Leonard Martin, Univ. of Detroit, Col. of Com. and Fin., Detroit, Mich. (1931) **A** Univ. of Detroit, prof. of fin., T. **B** B.S.C., 1924, M.A., 1927, Ph.D., 1932, Iowa. **C** Economic principles in the formulation of guiding rules and principles in speculation and investment. **D** 9, 7, 5. **E** Commodity price movements. **F** Successful stock market operations (Edwards Bros., 1937). **G** E.

ELDEAN, Fred A., 30 Rockefeller Plaza, New York City. (1938)

ELDER, Robert Fairchild, 32 Peirce Rd., Wellesley Hills, Mass. (1930) **A** Lever Brothers Co., dir. of market res., B. **B** A.B., 1922, Harvard. **D** 12, 11. **F** Fundamentals of industrial marketing (McGraw-Hill, 1935); co-author, Organization and management of a business enterprise (Harper, 1937), Marketing (Ginn, 1940).

ELDRIDGE, John Grady, Gainesville, Fla. (1927)

ELDRIDGE, Lynn Edwin, 3614 Warren St., N.W., Washington, D.C. (1942) **A** Soc. Sec. Bd., Legis. Program Unit, chief, A. **B** B.A., 1932, Wisconsin. **D** 18, 17, 10.

ELIASON, Raymond Orlando, 5507 13th St., N.W., Washington, D.C. (1936) **A 42nd Ordnance Bn., Ft. Leonard Wood, C.O., Lieut. Col.;** Office Chief of Ordnance, Ind. Service, sr. ord. engr. **B** B.A., 1927, Southeastern; M.A., 1934, American. **D** 11, 13, 10.

ELIOT, Clara, Barnard Col., New York City. (1922)

ELLERMAN, Frederick James, New York Univ., Univ. Hghts., New York City. (1932) **B** A.B., 1923, State Col., Mo.; M.A., 1937, Harvard. **D** 7, 4, 9. **F** "Probable distribution of expenses and benefits under federal system of deposit insurance," Jour. of Bus., 1936.

ELLIOTT, Curtis Miller, Univ. of Nebraska, 107 S. S. Annex, Lincoln, Neb. (1936) **A** Univ. of Nebraska, instr., T. **B** A.B., 1934, A.M., 1935, Ph.D., 1940, Illinois. **C** The causes of and the problems resulting from the increased sales of life annuities by life insurance companies. **D** 9, 18, 1. **E** Compulsory automobile insurance and the proposed compensation plan for automobile accidents.

ELLIOTT, Edith Ann, 6139 S. Ellis Ave., Chicago, Ill. (1941)

ELLIOTT, George Alexander, Univ. of Alberta, Edmonton, Alta., Canada. (1926)

ELLIOTT, Margaret, Univ. of Michigan, 108 Tappan Hall, Ann Arbor, Mich. (1925) **A** Univ. of Michigan, prof., T. **B** B.A., 1914, Wellesley; M.A., 1921, Ph.D., 1924, Radcliffe. **C** Occupation statistics: a study in classification. **D** 17, 18, 2. **F** Earnings of women in business and the professions (Univ. of Michigan Press, 1930).

ELLIS, Howard Sylvester, 936 Cragmont Ave., Berkeley, Calif. (1930) **A** Univ. of California, prof., T. **B** B.A., 1920, Iowa; M.A., 1922, Michigan; Ph.D., 1929, Harvard. **C** German monetary theory, 1905-33 (Harvard Econ. Studies No. 44, 1934). **D** 1, 8, 7. **E** Postwar international exchange. **F** Exchange control in Central Europe (Harvard Univ. Press, 1941); "Some fundamentals in the theory of velocity," Q.J.E., May, 1938; "Monetary policy and investment," A.E.R., Mar. Sup., 1940. **G** WS.

ELLIS, Paul Warren, 509 W. 121st St., New York City. (1937) **A** Nat. Indus. Conf. Bd., Dept. of Pub. Fin., head, R. **B** A.B., 1931, Willamette; M.A., 1933, Oregon; grad. work, 1939-40, Columbia. **D** 6, 1. **E** Effects of taxes upon the policies and motives of business management (doctoral dissertation). **F** "Fiscal policy and price control," Sept., 1941, "Anti-inflationary fiscal policy," Jan., 1942, Conf. Bd. Econ. Record.

ELLIS, Ray George, 250 E. Columbia St., Detroit, Mich. (1921)

ELLSWORTH, J(ohn) Orval, Texas Tech. Col., Lubbock, Tex. (1925) **A** Texas Tech. Col., dean of com., TA. **B** B.S., 1917, Utah State Col.; M.S., 1924, Ph.D., 1926, Cornell. **C** Marketing of sugar with special reference to the function of the New York Coffee and Sugar Exchange. **D** 12, 4, 5. **F** The combine harvester on Oklahoma farms (Okla. Exp. Sta. Bul., 1927); Types of farming in Oklahoma (Okla. Exp. Sta. Bul., 1928). **G** S.

ELLSWORTH, Von Theurer, 2161 Allston Way, Berkeley, Calif. (1929) **A** Calif. Farm Bur. Fed., Res. Dept., dir., legis. rep., RA. **B** B.S., M.A., 1924, Utah Agric. Col.; Ph.D., 1934, California. **C** Property tax in California with emphasis on its relation to agriculture. **D** 6, 15, 10. **E** Current tax situation. **F** Amendments to the California bank and corporation franchise tax (mimeo., Feb., 1929); co-author, Economic problems of California agriculture (Univ. of California Col. of Agric., Bul. 504, Dec., 1930); New taxes to meet school costs as proposed in California (Nat. Tax Asso. Bul., Apr., 1932).

ELSASSER, Robert William, Tulane Univ., Gibson Hall, New Orleans, La. (1925)

ELWELL, Fayette Herbert, 2025 Chadbourne Ave., Madison, Wis. (1911) **A** Univ. of Wisconsin, School of Com., dir. **B** B.A., 1908, Wisconsin; C.P.A., 1914, Wisconsin. **D** 4, 9. **F** Bookkeeping and accounting texts (Ginn, 1918-41); Business record keeping, 1941; co-author, Bookkeeping and accounting principles, 1918-41. **G** W.

ELY, J. Edward, 4045 25th St., N., Arlington, Va. (1931) **A** Bur. of the Census, Div. of For. Trade Statis., asst. chief statis., A. **B** B.S., 1930, M.A., 1931, Wesleyan Univ.; Ph.D., 1940, Yale. **C** Labor productivity in Illinois underground bituminous coal mining. **D** 8, 10, 18. **G** S.

ELY, Richard Theodore, R. 2, Old Lyme, Conn. (1886)

ELY, Roy J. W., Montana State Univ., Missoula, Mont. (1928)

EMERSON, D. W., Northeastern State Col., Extension Div., Tahlequah, Okla. (1941)

EMMET, Boris, 769 Michigan Ave., Wilmette, Ill. (1919)

ENDLER, Oscar Lewis, 4404 46th St., N.W., Washington, D.C. (1940) **A** Nat. Res. Plan. Bd., statis., R. **B** B.S., 1931, Pittsburgh. **D** 11, 4, 13.

ENGEL, Edward J., 1015 Railway Exch., Chicago, Ill. (1914) **A** Atchison, Topeka and Santa Fe Ry. Co., pres., B. **G** W.

ENGLE, Nathanael Howard, Univ. of Washington, 302 Commerce Hall, Seattle, Wash. (1925) **A** Univ. of Washington, dir. of bus. res., R. **B** A.B., 1925. A.M., 1926, Univ. of Washington; Ph.D., 1929, Michigan. **C** Competitive forces in the wholesale distribution of prepared food products (Nat. Wholesale Grocers Asso. Bul., 1929-30). **D** 12, 8, 16. **E** Economic analysis of the aluminum industry of Washington; postwar markets. **F** Co-author, Wholesaling, principles and practice (Ronald Press, 1937); Housing conditions in the United States (U. S. Dept. of Com., 1937); The struggle for marketing control (TNEC, 1941). **G** WS.

ENGLISH, Donald, Cornell Univ., Ithaca, N.Y. (1911)

ENGSTROM, Birger, 134 W. Swissvale Ave., Pittsburgh, 18, Pa. (1937) **A** McDowell Mfg. Co., vice-pres., gen. mgr., B. **B** B.S., 1923, Pittsburgh. **D** 1, 11, 12.

ENKE, Stephen, Univ. of California, Dept. of Econ., Los Angeles, Calif. (1940) **A** Univ. of California at Los Angeles, T. **B** A.B., 1937, A.M., 1939, Stanford; M.P.A., 1941, Harvard. **D** 10, 11, 1. **F** "Profit maximization under monopolistic competition," A.E.R., June, 1941; "Gasoline prices," Q.J.E., May, 1941; "Spatial aspects of value," Q.J.E., Aug., 1942.

ENNIS, J(ames) Harold, Cornell Col., Mt. Vernon, Ia. (1925) **A** Cornell Col., prof., T. **B** B.A., 1925, Cornell Col.; M.A., 1926, Columbia; Ph.D., 1936, Iowa. **C** A study of the Guffey Act, with special reference to its bearing upon various labor interests. **D** 17, 20, 10. **E** Property concepts among certain primitive peoples. **F** "Life of A. J. Dallas," in Dict. of Amer. Biog. (Scribners); "Economic institutions," in Society under analysis (1942). **G** S.

ENNIS, William Duane, Stevens Inst. of Tech., Hoboken, N.J. (1933) **A** Stevens Inst. of Tech., Humphreys prof., TRA. **B** M.E., 1897, D.Eng. (Hon.), 1934, Stevens Inst. of Tech. **D** 11, 9, 13. **E** Business fundamentals for engineering students. **F** Works management (1911). **G** W.

ENSLEY, Grover William, 4129 N. Henderson Rd., Arlington, Va. (1942) **A** U. S. Bur. of the Budget, asso. fiscal anal., R. **B** B.A., 1937, M.B.A., 1938, Univ. of Washington; M.S., 1940, Denver; grad. work, 1940-41, New York. **D** 6, 10, 14. **E** Measurement of inflationary pressure; war savings bonds. **F** Role of budgeting in government (Tax Found., 1941); "Citizen's observations on state and local budgeting," Nat. Municipal Rev., May, 1942; Revenue possibilities of the personal income tax (with Walter A. Durham, Jr.) (Nat. Tax. Asso. Bul., May, 1940).

EPSTEIN, Ralph Cecil, Univ. of Buffalo, Buffalo, N.Y. (1922)

ERB, Donald Milton, Eugene, Ore. (1937) **A** Univ. of Oregon, pres., A. **B** B.S., 1922, M.S., 1924, Illinois; M.A., 1926, Ph.D., 1930, Harvard. **C** Weak railroads in the United States: their relation to regulatory policy. **D** 14, 2, 10. **G** WS.

ERDMAN, Henry Ernest, Univ. of California, Berkeley, Calif. (1918) **A** Univ. of California. **B** B.S., 1912, South Dakota State Col.; Ph.D., 1920, Wisconsin. **C** The marketing of whole milk (Macmillan, 1921). **D** 12, 19, 16. **E** Organization and functioning of San Francisco fruit and vegetable market; history of co-operation in Calif. **F** Egg marketing in the Los Angeles area (with G. B. Alcorn and A. T. Mace) (Univ. of California Bul. 656, Nov., 1941). **G** WS.

ERDMANN, Herbert H., 4142 Central Ave., Western Springs, Ill. (1932)

ERICKSON, Arthur Edward, Luther L. Wright High School, Ironwood, Mich. (1926)

ERICKSON, Roland Axel, 104 Forest St., Worcester, Mass. (1937) **A** Guaranty Bank and Trust Co., vice-pres., A. **B** A.B., 1935, Clark, Worcester; M.A., 1937, Tufts. **D** 7, 9, 5.

ESKILDSON, Hugo N., Jr., 634 Irving St., N.W., Washington, D.C. (1941) **A ODT, asst., R. B** B.S., 1940, Denver. **D** 3, 14, 8. **E** Small loan legislation in Colo.; personnel supply studies for transport industries.

ESTABROOK, Vincent Taft, 25 Varick Rd., Waban, Mass. (1940)

ESTEY, James Arthur, 230 Russell St., West Lafayette, Ind. (1916) **A** Purdue Univ., Dept. of Hist., Econ., and Gov., head, prof., TA. **B** B.A., 1907, Acadia; B.A., 1909, Oxford; Ph.D., 1911, Wisconsin. **C** Revolutionary syndicalism (P.S. King and Son, 1913). **D** 1, 5, 17. **F** The labor problem (McGraw-Hill, 1928); Business cycles (Prentice-Hall, 1941). **G** WSE.

EULENBERG, Alexander, 110 S. Dearborn St., Chicago, Ill. (1941) **A** David Himmelblau and Co., partner; Northwestern Univ., School of Com., lecturer. **D** 6, 4, 10. **E** Apportionment of corporate income for purposes of state taxation. **F** "The practice of public accountants before governmental administrative agencies," John Marshall Law Quarterly, June, 1942.

EVANS, George Heberton, Jr., Johns Hopkins Univ., Baltimore, Md. (1927) **A** Johns Hopkins Univ., prof. of polit. econ., TR. **B** A.B., 1920, Ph.D., 1925, Johns Hopkins. **C** Apartment rents in Baltimore, 1917-23. **D** 9, 2, 1. **E** Incorporation of business enterprises; development of the American business corporation. **F** British corporation finance, 1775-1850: a study of preference shares (Johns Hopkins Press, 1936); Principles of investment (with G. E. Barnett) (Houghton Mifflin, 1940). **G** S.

EVANS, Roger Flagg, 4430 Tibbett Ave., New York City. (1942) **A** Rockefeller Found., asst. dir. for soc. sci., A. **B** B.S., 1916, Dartmouth.

EVANS, Wilmoth Duane, U. S. Bur. of Labor Statis., Washington, D.C. (1941) **A** U. S. Bur. of Labor Statis., Productivity and Tech. Dev. Div., chief, R. **B** B.S., 1930, Clarkson Col. of Tech. **D** 4, 13, 17. **F** The motion picture industry—a pattern of control (TNEC Mono. 43, 1941); Mechanization and productivity in the cigar manufacturing industry (U. S. Bur. of Labor Statis. Bul. 660, 1939).

EWART, Park J., 3551 University Ave., Los Angeles, Calif. (1934)

EWING, John Bertwell, The Argonne, 1629 Columbia Rd., N.W., Washington, D.C. (1926)

EXTER, John Edward, 5 Centre St., Cambridge, Mass. (1942) **A** Harvard Univ., tutor, T. **B** B.A., 1932, Wooster; M.A., 1934, Fletcher School. **D** 8, 7, 6. **E** American economic relations with China since 1931 (doctoral dissertation).

EZEKIEL, Mordecai Joseph Brill, Dept. of Agric., Office of Secy., Washington, D.C. (1924) **A WPB Planning Com., consultant, A;** U. S. Dept. of Agric., econ. adviser to Secy. **B** B.S., 1918, Maryland; M.S., 1924, Minnesota; Ph.D., 1926, Brookings. **C** "Factors related to lamb prices," J.P.E., April, 1927. **D** 10, 11, 15. **E** Statistical studies of savings-investment equilibrums and of industrial price and production policies. **F** Methods of correlation analysis (Wiley, rev. 1941); $2500 a year (Harcourt, Brace, 1936); Jobs for all (Knopf, 1939). **G** WSI.

FABRICANT, Solomon, Nat. Bur. of Econ. Res., 1819 Broadway, New York City. (1933) **A WPB, chief consultant, R;** Nat. Bur. of Econ. Res., staff member, R. **B** B.C.S., 1926, New York; B.S., 1929, City of New York; A.M., 1930, Ph.D., 1938, Columbia. **C** Capital consumption and adjustment (Nat. Bur. of Econ. Res., 1938). **D** 1, 5, 11. **E** Labor productivity in American industry. **F** The output of manufacturing industries (Nat. Bur. of Econ. Res., 1940). **G** S.

FACKLER, Clarence Webster, New York Univ., Washington Sq. E., New York City. (1926) **A** New York Univ., asso. prof. of acctg., T. **B** A.B., 1920, Iowa; A.M., 1923, Cincinnati; Ph.D., 1929, New York; C.P.A., New York and Illinois. **C** Some factors influencing the prices of United States Steel Corporation securities. **D** 4, 1, 5. **F** Chapter

in Economic principles and problems, by Spahr and Others, 1932. **G** S.

FAGAN, Elmer Daniel, Dept. of Econ., Stanford University, Calif. (1927) **A** Stanford Univ., prof., T. **B** A.B., 1920, Oklahoma; A.M., 1921, Ph.D., 1926, Harvard. **C** Economic factors in the migration of the wheat belt in the United States. **D** 6, 1, 5. **E** Fiscal policy and business cycles. **F** "Tax shifting and the laws of cost," Q.J.E., Aug., 1933; "Recent and contemporary theories of progressive taxation," J.P.E., Aug., 1938; "Tax shifting in the market period," A.E.R., Mar., 1942. **G** S.

FAIR, Marvin Luke, 329 Jenkintown Rd., Elkins Park, Pa. (1926) **A U. S. Bur. of the Budget, Div. of Statis. Stand., spec. consultant, R;** Temple Univ., prof. of econ. and transp., T. **B** A.B., 1923, Ohio Univ.; M.A., 1926, Ph.D., 1930, Ohio State. **C** The improvement of railroad terminals. **D** 14, 10, 8. **E** Survey of maritime statistics of federal government. **F** Co-author, Economic problems of war (Wiley, 1942); "Unification of railroad terminals," Harvard Bus. Rev., Autumn, 1931; "Regulation of railroad terminals," Q.J.E., May, 1929. **G** SE.

FAIRCHILD, Fred Rogers, Yale Sta., New Haven, Conn. (1904).

FALCK, Edward, 4 Blackistone Rd., Westmoreland Hills, Md. (1934) **A WPB, Sup. Allocation Sec., Power Br., chief, A;** Consolidated Edison Co. of N.Y., Inc., asst. to vice-pres., A. **B** A.B., 1930, B.S. (Engr.), 1931, M.S., 1932, Columbia. **D** 10, 14, 4. **E** Power allocation during the war (doctoral dissertation).

FALCONER, John I., Ohio State Univ., Columbus, Ohio. (1914) **A** Ohio State Univ., Dept. of Rural Econ., chmn., prof., TRA. **B** B.S., 1909, New Hampshire; Ph.D., 1914, Wisconsin. **C** History of agriculture in the northern United States, 1840-60 (Carnegie Inst. of Wash.). **D** 15, 3, 1. **E** Land tenure in Ohio. **F** General Exp. Sta. bulletins. **G** E.

FALK, Isidore Sydney, Social Security Bd., Washington, D.C. (1940) **A** Soc. Sec. Bd., Bur. of Res. and Statis., dir., A. **B** Ph.B., 1920, Ph.D., 1923, Yale. **D** 18, 20. **F** The costs of medical care (Univ. of Chicago Press, 1933); Security against sickness (Doubleday Doran, 1936). **G** WSI.

FARLEY, John Thomas, 4309 Russell Ave., Mt. Rainier, Md. (1939)

FARNSWORTH, (Mrs.) Helen Cherington, Food Res. Inst., Stanford University, Calif. (1925) **A** Food Res. Inst., asso. econ., R. **B** B.S., M.A., 1924, Ohio State; Ph.D., 1930, Stanford. **C** Rate structures of the manufactured gas industry. **D** 15, 2, 19. **E** Wheat developments in the price-parity period, 1909-13; wartime food developments in Europe. **F** Wheat in the post-surplus period 1900-09, with recent analogies and contrasts (Apr., 1941), "World" wheat stocks, 1890-1914 and 1922-39 (Oct., 1939), The world wheat situation, 1940-41: a review of the crop year (Dec., 1941) (Wheat Studies). **G** E.

FAUBEL, Arthur L., 25 W. 43rd St., New York City. (1919)

FAULKNER, Harold Underwood, 26 Barrett Pl., Northampton Mass. (1926) **A** Smith Col., Dwight W. Morrow prof. of hist., T. **B** B.A., 1913, Wesleyan Univ.; M.A. 1915, Ph.D., 1916, Columbia. **C** Chartism and the churches. **D** 2, 17. **E** Economic history of the U. S., 1897-1917. **F** American economic history (Harper, 4th ed., 1938); The quest for social justice (Macmillan, 1931). **G** WS.

FAUST, Lloyd Myron, Univ. of Oregon, School of Bus. Admin., Eugene, Ore. (1938) **A** Univ. of Oregon, asst. prof., res. asso., R. **B** B.S., 1935, Oregon. **D** 14, 17, 5. **E** Field survey of social and economic conditions in the Eugene, Ore., rural-urban fringe; current business conditions in Ore. **F** "The Eugene rural-urban fringe," Commonwealth Rev., June, 1942; "Cost of living and wage adjustment plans," Ore. Bus. Rev. (mimeo.), Feb. 28, 1942.

FEFFER, Louis C., 414 George Mason Dr., Arlington, Va. (1942)

FEIS, Herbert, Dept. of State, Room 368, Washington, D.C. (1921)

FELDE, Leon Stephen, 49 W. 84th St., New York City. (1942) **A Private res. work, T;** Marine Academy of Belgium, member (on leave); Sworn Average Adjuster, Gdynia, Poland (on leave); Ste Neuchâteloise de Geographie, Switzerland, hon. member, correspondent; R.A. **B** C.B.S., 1914, Univ. of Liège; Lauréat de l'Université, 1916, Dr. of Econ., D.B.S., 1917, Univ. of Lausanne. **C** Russian wheat (in French) (Ed. Pavot et Cie., Paris, 1917). **D** 14, 8, 16. **E** Marine economics. **F** Lodz, le Manchester Polonais (in French) (Ch. of Ind. and Com., Lodz, 1935); General average and the York-Antwerp Rules, 1924 (in Polish) (Ch. of Ind. and Com., Gydnia, 1936); A Polish contribution to the Belgian Antarctic Expedition (in French) (Marine Acad. of Belgium, 1939).

FELDMAN, Herman, Dartmouth Col., Hanover, N.H. (1926) **A** Dartmouth Col., Amos Tuck School, prof. of ind. rela. **B** B.A., 1915, City of New York; M.A., 1917, Ph.D., 1925, Columbia. **C** The regularization of employment (Harper, 1925). **D** 17, 11, 18. **F** Job security and wage stability (Harper, 1940); Problems in labor relations (Macmillan, 1937); Racial factors in American industry (Harper, 1931). **G** WSI.

FELDSTEIN, Marc J., 965 N. Kentucky St., Arlington, Va. (1941) **A U. S. Office of Educa., statis., R. B** B.A., 1930, M.A., 1932, Western Reserve **D** 4, 18, 20. **E** Defense training program problems. **F** Group adjustment (Western Reserve Univ. Press, 1938); "Organization of occupancy as an approach to real estate management," Jour. of Land and Pub. Util. Econ., 1941.

FELLNER, William J., 33 Tanglewood Rd., Berkeley, Calif. (1941)

FENIMORE, Joseph Bush, 263 N. Taylor, Decatur, Ill. (1939) **A Oak Ordnance Plant, asst. area engr.;** U. S. Army, Corps of Engineers, capt., A. **B** B.S., 1937, Northwestern. **D** 4, 9, 10. **E** Public control of business; national defense and war.

FENNINGER, Carl Wiker, 1632 Chestnut St., Philadelphia, Pa. (1925) **A** Provident Trust Co. of Philadelphia, vice-pres., AB. **B** Grad., Pennsylvania. **D** 7, 9, 6.

FENTRESS, Calvin, 208 S. La Salle St., Chicago, Ill. (1933) **A** Baker, Fentress and Co., pres., chmn. of bd. of dir. **B** A.B., 1901, Princeton. **D** 9. **G** W.

FEREBEE, Enoch Emory, 4856 Chevy Chase Blvd., Chevy Chase, Md. (1929) **A WPB, Rubber and Rubber Produc. Br., deputy chief, A. B** B.S., 1924, M.S., 1925, Virginia; Ph.D., 1932, Chicago. **C** Chicago public merchandise warehouses in distribution. **D** 12, 4, 18. **F** "Chicago warehouses in distribution," Jour. of Bus., 1933-34; Economic survey of Princess Anne Co. (Univ. of Virginia Press, 1924); "Financing of relief in Illinois," Jour. of Ill. Conf. on Taxation, 1940.

FERGER, Wirth Fitch, 3110 17th St., N., Arlington, Va. (1935) **A BEW head econ., A. B** B.A., 1919, M.A., 1926, Ph.D., 1931, Wisconsin. **C** Elasticity of demand related to index number construction. **D** 4, 15, 6. **F** "The static and the dynamic in statistical demand curves," Q.J.E., 1932; "The measurement of tax shifting: economics and law," Q.J.E., 1940; "Distinctive concepts of price and purchasing power index numbers," Jour. of Amer. Statis. Asso., 1936. **G** S.

FERGUSON, John Maxwell, Univ. of Pittsburgh, Pittsburgh, Pa. (1917) **A** Univ. of Pittsburgh, asso. prof., T. **B** A.B., 1908, Harvard; A.M., 1909, Ph.D., 1927, Columbia. **C** State regulation of railroads (Longmans, Green, 1916). **D** 1, 3, 14. **E** Economic systems (textbook). **F** Landmarks of economic thought (Longmans, Green, 1938). **G** S.

FERGUSON, Robert Harry, 100 E. Genesee St., Auburn, N.Y. (1942) **A U. S. Army, pvt.;** Cornell Univ., instr., T. **B** A.B., 1938, Union Col.; A.M., 1940, Brown. **D** 17, 18, 2.

FERNALD, Charles Henry, 1128 Oxford Rd., Winter Park, Fla. (1941) **A** Univ. of Arkansas, asso. prof., T. **B** B.S., 1916, Massachusetts State Col.; M.B.A., 1921, Harvard. **D** 12. **F** Salesmanship (rev. 1942), Modern selling (1936) (Prentice-Hall).

FERNALD, Roy Lynde, 575th Tech. School Squad., T. S. No. 185, A.A.F.T.T.C., Replacement Training Center, Miami Beach, Fla. (1932) **A**

U. S. Army, pvt.; B, law, politics. B Ph.D., 1931, Boston Univ. C History of Maine's board of state assessors. D 6, 1.

FERRIN, Dana Holman, D. Appleton-Century Co., 35 W. 32nd St., New York City. (1932)

FETTER, Frank Albert, 168 Prospect Ave., Princeton, N.J. (1894) A Princeton Univ., prof. emeritus. B A.B., 1891, Indiana; Ph.M., 1892, Cornell; Ph.D., 1894, Halle-Wittenberg. C Versuch einer Bevölkerungslehre (The Malthusian theory) (Verlag Gustav Fischer, Jena, 1894). D 1, 10. F Economic principles (D. Appleton-Century, 1915); Masquerade of monopoly (Harcourt, Brace, 1931). G WS.

FETTER, Frank Whitson, Haverford Col., Haverford, Pa. (1923) A Haverford Col., Dept. of Econ., chmn., prof., T. B A.B., 1920, Swarthmore; A.M., 1922, Ph.D., 1926, Princeton; A.M., 1924, Harvard. C The experience of Chile with inconvertible paper money. D 8, 7, 3. E Development of monetary and banking theory in England, 1800-70. F Monetary inflation in Chile (Princeton Univ. Press, 1932); co-author, Facing the facts (Putnams, 1932), Problems of the new Cuba (For. Pol. Asso.). G WS.

FETTER, Theodore Albert, Box 11, Benjamin Franklin Sta., Washington, D.C. (1930) A Interstate Commerce Com., Fourth Sec., chief, report writer, A. B B.S., 1929, M.S., 1931, Washington Univ.; J.D., 1942, George Washington. D 14, 10. F Southwestern freight rates (Christopher, 1934); "Wartime requisition, mercantile and manufacturing industries," George Washington Law Rev., 1942. G S.

FEUERLEIN, Willy J. A., BEW, European-African Div., Washington, D.C. (1940) **A BEW, econ., R;** U. S. Gov., econ., R. B A.B., M.A., 1935, George Washington; Ph.D., 1939, Yale. C The structure of international economic relations as seen through the balances of international payments. D 8, 7. E American and European financial problems of reoccupation, relief, and reconstruction. F Dollars in Latin America—an old problem in a new setting (with Elizabeth Hannan) (Coun. on For. Rela., 1941).

FICEK, Karel Francis, Stamford, N.Y. (1926) A N. Y. State Dept. of Labor, Div. of Place. and Unemploy. Ins., chief of plan., A. B B.A., 1921 First Czech Real Gymnasium, Prague; Merc. Ing., 1924, Grad. School of Com., Prague; M.A., 1926, Chicago. D 18, 10, 11. F Interim report on partial unemployment, Partial unemployment (printed as special bulletins No. 2 and 3, Place. and Unemploy. Ins. Ser., N. Y. State Dept. of Labor, 1938, 1941).

FICHTNER, Charles Clifton, 836B Westchester Apts., 4000 Cathedral Dr., Washington, D.C. (1924) A U. S. Dept. of Com., Div. of Regional Econ., chief, Field Service, chief, A. B S.B., 1920, Harvard; Ph.D., 1922, Univ. of Lyons. C War and tariff policy (Lyons, 1922). D 7, 10, 9. F History of banking in Arkansas (Amer. Hist. Soc., 1929); editor, Proceedings, 1935-40, and Faculty personnel, 1940, Amer. Asso. of Col. Schools of Bus. G WSE.

FICK, John William, 420 Tremont St., North Tonawanda, N.Y. (1940)

FIELD, Frederick V., 129 E. 52nd St., New York City. (1934)

FIELD, Kenneth, 234 Lytton Ave., Pittsburgh, Pa. (1936) A Carnegie Inst. of Tech., Dept. of Econ., head, prof. B A.B., 1925, Maine; M.A., 1926, Ph.D. 1928, Illinois; J.D., 1936, Northwestern. C The holding corporation (pub. in modified form in Univ. of Colorado Studies, 1932). D 9, 6, 7. E Introduction to law; corporate taxation; money and banking. F Corporation finance (Ronald Press, 1938); Introduction to investment analysis (Ronald Press, 1940); Public utility holding corporations (Univ. of Colorado Press, 1932). G SE.

FIELD, Marshall, 250 Park Ave., New York City. (1920)

FIELD, Maxwell, 210 Lincoln St., Boston, Mass. (1941) A New England Shoe and Leather Asso., exec. secy., B. B A.B., 1933, M.C.S., 1934, Dartmouth. D 11, 4, 5.

FIELD, Robert W, Univ. of Oklahoma, Norman, Okla. (1941)

FIELDS, Homer Herbert, 1705 B St., Pullman, Wash. (1941) A Washington State Col., instr., T. B B.Ed., 1931, Carbondale, Ill., State Teachers Col.; M.A., 1936, Illinois. D 6, 1, 8.

FILENE, Lincoln, 416 Washington St., Boston, Mass. (1909)

FILIPETTI, George, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1922) A Univ. of Minnesota, prof., T. B B.S., 1916, Ph.D., 1925, Columbia; M.A., 1921, Washington Univ. C Wholesale markets of New York and environs. D 11, 13, 10. F Operating results in manufacturing industries in Minnesota (1932), Scientific management—an aid to industrial control (1933), Economic effects of NRA in Minnesota (1935) (Univ. of Minnesota Press). G S.

FILLEY, H(orace) Clyde, Univ. of Nebraska, Col. of Agric., Lincoln, Neb. (1923) A Univ. of Nebraska, dept. chmn., prof., TRA. B B.A., 1903, M.A., 1911, Nebraska; Ph.D., 1934, Minnesota. C Effects of inflation and deflation on Nebraska agriculture (Neb. Exp. Sta. Res. Bul. 71). D 15, 19, 12. E Livestock marketing; farm organization and farm costs; cost of producing farm crops. F Co-operation in agriculture (Wiley, 1929); Local prices of farm products in Nebraska (Neb. Exp. Sta., 1933); Findings of the Farmers National Grain Dealers Association Commission (Farmers Nat. Elevator Asso., 1935).

FINCK, David Herbert, 15 Washington St., Newark, N.J. (1939) A Beneficial Management Corp., personnel dir., B. B A.B., 1918, M.B.A., 1920, Harvard. D 11, 12, 19. F Personal finance—principles, methods and management (Ind. Lenders Tech. Inst., rev. 1941).

FINGER, (Martha) Eleanor, 42 Temple St., Arlington, Mass. (1941) B B.A., 1940, M.A., 1942, Wellesley. D 17, 3, 10. E Union-management cooperation in the war effort.

FINK, Cornelius Winfield, Dickinson Col., Carlisle, Pa. (1923)

FINNEGAN, Joseph H., 3350 Bronx Blvd., New York City. (1937) A New York Univ., School of Com., instr. in econ., T. B B.S., 1934, A.M., 1936, New York. D 20, 4, 1. E Estimating population of geographical areas during intercensal years (doctoral dissertation).

FINNEY, Katherine, Western Reserve Univ., Cleveland, Ohio. (1940) A Western Reserve Univ., Flora Stone Mather Col., instr., dir. of admission, TA. B B.A., 1935, Arkansas; M.A., 1936, Columbia. D 4, 6, 5. E History of the mutual savings banks of Northampton, Mass. (doctoral dissertation).

FIREOVED, Elgie Lloyd, Western Union Col., Le Mars, Iowa. (1926)

FISCHER, Harold, Franklin and Marshall Col., Lancaster, Pa. (1932) A Franklin and Marshall Col., personnel dir., asso. prof. of econ. and bus. admin., TA. B B.S. in B.A., 1922, A.M., 1926, Ohio State. D 17, 11, 2. F "Federal aid and education," School and Col. Placement, Mar., 1942. G S.

FISCHER, Harry Salwyn, 274 Madison Ave., New York City. (1941) A Fischer and Zachs, law partner. B A.B., 1917, City of New York; LL.B., 1925, St. Lawrence; M.B.A., 1939, New York. D 14, 4, 10. E Transit fares; public administration. F Annual reports, 1921 and 1922, quarterly and monthly pamphlets, 1921-24, and contributor to valuation report, 1922, N. Y. State Transit Com.

FISCHER, Paul Allan, 6136 N. 22nd St., Arlington, Va. (1941) A Nat. Res. Plan. Bd., econ., R. B B.A., 1934, M.A., 1940, George Washington. D 13, 11, 1. F Contributor: Structure of the American economy (1939), Capital requirements: a study in methods as applied to the iron and steel industry (1940), Security, work, and relief policies (1942) (Nat. Res. Plan. Bd.).

FISHBURN, John T., 9207 Connecticut Ave., Chevy Chase, Md. (1939) **A Co-ord. of Inter-Amer. Affairs, sr. econ.** B B.A., 1935, Oklahoma; M.A., 1936, Fletcher School. D 8, 5, 1.

FISHER, Allan Jerry, 700 Garland St., Philadelphia, Pa. (1937). A SEC, asso. res. accountant, R. B B.S., 1928, Pennsylvania; Litt.M., 1936, Ph.D.,

1937, Pittsburgh. **C** The sterling area: a study of the international aspects of British monetary policy (abstract in Univ. of Pittsburgh Bul., Oct. 1, 1937). **D** 8, 9, 4. **E** Annual reports to stockholders as compared with annual reports to the SEC. **F** Accounting cases, Acctg. Rev., Mar., 1940-Mar., 1941; "Personal and automobile insurance carried by rural and urban groups," Agric. Fin. Rev., Nov., 1940. **G** S.

FISHER, Clyde Olin, Wesleyan Univ., Middletown, Conn. (1916) **A** Wesleyan Univ., prof.; **Conn. Pub. Util. Com., member.** **B** A.B., 1911, LL.D., 1941, Duke; A.M., 1916, Columbia; Ph.D., 1919, Cornell; A.M. (ad eundure), 1923, Wesleyan. **C** Use of federal power in settlement of railway labor disputes (Bur. of Labor Statis., Bul. 3038, 1922). **D** 7, 1, 14. **F** Commission regulation of public utilities in Connecticut (privately pub., 1933). **G** WSE.

FISHER, Ernest McKinley, American Bankers Asso., Washington Bldg., Washington, D.C. (1923) **A** Amer. Bankers Asso., dir. of res. in mortgage and real estate fin., R. **B** A.B., 1914, Coe; A.M., 1923, Wisconsin; Ph.D., 1930, Northwestern. **C** Statistical measures of real estate market. **D** 16, 7, 10. **E** Mortgage and real estate problems of banks. **F** Principles of real estate practice (Macmillan, 1923); Advanced principles of real estate practice (Macmillan, 1930); European housing policy and procedure (with Richard U. Ratcliff) (Gov. Print. Office, 1936). **G** WS.

***FISHER, Irving,** Box 1825, New Haven, Conn. (1894) **A** Yale Univ., emeritus prof. of econ. **B** B.A., 1888, Ph.D., 1891, Yale; LL.D., 1932, Rollins, 1937, Univ. of Athens, Greece, Univ. of Lausanne, Switzerland. **C** Mathematical investigations in the theory of value and prices. **D** 1, 7, 6. **E** Book on income tax reform. **F** Nature of capital and income (1906), Purchasing power of money (1911), Theory of interest (1930) (Macmillan). **G** WSIE.

FISHER, Joseph L., Nat. Res. Plan. Bd., Box 2931, Juneau, Alaska. (1940)

FISHER, Waldo E., Univ. of Pennsylvania, Wharton School, 310 Logan Hall, Philadelphia, Pa. (1926)

FISHMAN, Leo, 1900 F St., N.W., Washington, D.C. (1941) **A WPB, econ., R.** **B** B.A., 1937, M.A., 1938, New York. **D** 6, 10, 17. **E** British wartime control of nonferrous metals. **F** "British wartime control of copper, lead and zinc," Q.J.E., Feb., 1941; "British wartime control of aluminum," Q.J.E., Nov., 1941.

FITCH, Helen Joan, 2801 15th St., N.W., Washington, D.C. (1942) **A U. S. Gov., asso. econ., R;** Smith Col., instr., T. **B** A.B., 1934, Vassar; A.M., 1937, Radcliffe. **D** 2, 4, 5. **E** History of small-scale woolen manufacture in the Connecticut Valley section of New England (doctoral dissertation).

FITCH, John Andrews, 122 E. 22nd St., New York City. (1910) **A** N. Y. School of Soc. Work, prof., T. **B** B.A., 1904, LL.D., 1929, Yankton. **D** 17, 18, 2. **F** The steel workers (Charities Pub. Com., 1911); The causes of industrial unrest (Harper, 1924); Vocational guidance in action (Columbia Univ. Press, 1935). **G** W.

FITCH, Lyle C., Columbia Univ., Hamilton Hall, New York City. (1939) **A Columbia Univ., lecturer in econ., T.** **B** B.S., 1935, Nebraska State Teachers Col.; M.A., 1938, Nebraska. **D** 6, 5, 7. **E** War finance and government debt.

FITZGERALD, J(ames) Anderson, Univ. of Texas, Austin, Tex. (1914) **A** Univ. of Texas, School of Bus. Admin., dean, prof. of banking and ins., TA. **B** A.B., 1901, Georgetown Col.; A.M., 1907, Ph.D., 1925, Chicago. **C** Relations of a bank with its customers revised as Making use of a bank (Holt, 1923). **D** 9, 7. **F** "Reciprocal or inter-insurance against loss by fire," A.E.R., Mar., 1920; "Some practical considerations in social security legislation," Southwestern Soc. Sci. Quar., 1936. **G** WSE.

FITZGERALD, Lloyd Edward, Univ. of Detroit, Col. of Com. and Fin., Detroit, Mich. (1935) **A** Univ. of Detroit, Col. of Com. and Fin., dean, A. **B** B.Ed., State Teachers Col., Superior, Wis.; A.M., 1930, Iowa; Ph.D., 1938, Illinois. **C** Railway finance since 1929. **D** 14, 7, 10.

FITZGERALD, Mark James, Notre Dame, Ind. (1940) **A** Univ. of Notre Dame, T. **B** A.B., 1928, Notre Dame; M.B.A., 1931, Harvard. **D** 17, 10, 19.

FitzPATRICK, Paul Joseph, 4119 13th Pl., N.E., Brookland, Washington, D.C. (1939) **A** Catholic Univ., asso. prof., TRA. **B** A.B., 1916, Ph.D., 1931, Catholic; M.C.S., 1928, Benjamin Franklin; A.M., 1929, George Washington. **C** Symptoms of industrial failures (Catholic Univ. Press, 1931). **D** 4, 7, 5. **F** Bibliography of economics books and pamphlets by Catholic authors, 1891-1941 (Catholic Univ. Press, 1941); Problem of business failures (Dolphin Press, 1936). **G** S.

FLANDERS, Dwight Prescott, U. S. Military Academy, Dept. of Econ., Gov., and Hist., West Point, N.Y. (1937) **A U. S. Military Academy, Dept. of Econ., Gov., and Hist., instr., T;** Syracuse Univ., Econ. Dept., asst. prof., T. **B** B.A., 1931, M.A., 1937, Illinois; Ph.D., 1939, Yale. **C** Urban low rental housing and public finance. **D** 6, 5, 1. **E** Revision of dissertation. **F** Collection of rural real property taxes in Illinois (U. S. Dept. of Agric., Land Econ. Rep. No. 2, 1938); "Planning and low-rent housing," Soc. Forces, Mar., 1941.

FLANDERS, Ralph Edward, Box 477, Springfield, Vt. (1932) **A** Jones and Lamson Machine Co., pres. **B** A.M., 1932, Dartmouth; M.E., 1932, Stevens Inst.; D.Sc., 1934, Middlebury, 1935, Rose Poly. Inst.; D.Eng., 1934, Brooklyn Poly. Inst., 1935, Vermont. **D** 5, 10, 18. **F** Platform for America (McGraw-Hill, 1936); Towards full employment (McGraw-Hill, 1938). **G** WI.

FLATLEY, L(ee) Thomas, Mundelein Col., Chicago, Ill. (1932) **A** Mundelein Col., prof., T. **B** B.S., 1928, Iowa; M.S., 1929, Illinois; Ph.D., 1937, Northwestern. **C** Financial ratio analysis of nineteen public utility holding companies (Northwestern Univ. Summary of Doctoral Dissertations, 1937). **D** 9, 4, 7. **E** Vulnerability of security markets to different government communiques.

FLEISHER, Alexander, P.O. Box 5, Churchville, Pa. (1911) **A** Nat. Res. Plan. Bd., prin. econ., R. **B** A.B., 1908, Ph.D., 1915, Pennsylvania; M.A., 1911, Wisconsin. **C** Constitutional clauses dealing with health, charities, and correction. **D** 10, 18, 17. **E** Postwar problems in selected war centers; current changes in war centers caused by the war. **F** Joint author, Human factor in industry (Macmillan, 1920), Personal problem on the railroads (Simmonds-Boardman, 1925); editor, Pennsylvania State Planning Board Report (State of Pa., 1934).

FLEMING, Ralph Douglas, 821 Lancaster St., Albany, N.Y. (1911) **A** N. Y. State Educa. Dept., asst. in res., R. **B** A.B., 1906, Stanford; A.M., 1907, Ph.D., 1915, Pennsylvania. **C** Street railway transportation in Cleveland, Ohio (Cleveland School Survey, 1916). **D** 14, 16, 1. **F** Motor truck transportation (mono., 1921), Transportation (1916) (Alexander Hamilton Inst.); American and foreign commerce (mono., F. A. Davis Co., 1942).

FLETCHER, Henry, Field Point Pk., Greenwich, Conn. (1919)

FLINN, Bernard William, 1636 Charles St., Rockford, Ill. (1932) **A** Seidman and Seidman, Rockford, Ill., mgr., AB. **B** C.P.A., 1923, Michigan. **D** 4, 9, 5.

FLINN, Lawrence, Box 471, Chapel Hill, N.C. (1939)

FLOCKEN, Ira G., 1226 Lancaster Ave., Pittsburgh, Pa. (1909) **A** Accounant and statistician. **B** A.B., 1909, Ohio State; A.M., 1910, Cornell; C.P.A., 1917, Pennsylvania. **D** 4, 6, 9. **F** Contributor, Classification of school expenditures (Nat. Asso. of Pub. School Bus. Officials Bul., 1942); "There should be a budget," Nations Schools, Oct., 1941; "Capital expenditures and debt service," Proceedings, Nat. Asso. of Pub. School Bus. Officials, 1938.

FLORINSKY, Michael T., Columbia Univ., Fayerweather Hall, New York City. (1934) **A** Columbia Univ., Fac. of Polit. Sci., Dept. of Econ., lecturer, T. **B** M.A., 1927, Ph.D., 1931, Columbia. **C** The end of the Russian Empire

(Yale Univ. Press, 1931). D 2, 3, 8. E Economic and social history of Russia from the beginning of the Russian state to the present day. F World revolution and the U.S.S.R. (1933), Fascism and national socialism (1936) (Macmillan); Toward an understanding of the U.S.S.R. (Macmillan, 1939). G WS.

FLOWERS, John B., 121 Chestnut St., Brooklawn, Gloucester, N.J. (1935) **A Revolving Fund Asso., pres.**, R; U. S. Navy, sr. inspector of engr. materials (elec.), A. B B.E.E., 1908, Union, Schenectady. D 11, 18, 10. F How to boom business and raise wages from $25 to $75 a week (Revolving Fund Asso., 1932).

FLUBACHER, Joseph Francis, 424 Ashdale St., Philadelphia, Pa. (1938) **A La Salle Col., asst. prof., T.** B A.B., 1935, La Salle; A.M., 1938, Temple. D 1, 2, 10.

FLYNN, John Thomas, 15 E. 40th St., New York City. (1938) A R. D 1, 5, 9. E Economic effects of public debt. F Security speculation, its economic effects (Harcourt, Brace, 1936). G W.

FOERY, Raymond Wilbur, 6 E. Mercer Ave., Llanerch, Del. Co., Pa. (1927)

‡**FÖLDES, Bèla**, IV Duna utca I, Budapest, Hungary. (1927)

FOLEY, Ernest Bartholomew, Boston Col., Chestnut Hill, Mass. (1938) A Boston Col., prof., T. B A.B., 1934, Boston Col.; A.M., 1941, Harvard. D 11, 10, 1. G S.

FOLEY, James Henry, 20 Summer St., Providence, R.I. (1940) A Providence School Com., secy. B A.B., 1931, A.M., 1933, Brown. D 1.

FOLSOM, Marion Bayard, 343 State St., Rochester, N.Y. (1924) A Eastman Kodak Co., treas., B. B A.B., 1912, Georgia; M.B.A., 1914, Harvard. D 9, 18, 4. G W.

FOLTS, Franklin Erton, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1929) A Harvard Univ., prof. of ind. manage., TRA. B A.B., 1919, M.B.A., 1923, Oregon; M.A. (Hon.), 1942, Harvard. D 11, 17, 10. F Interpretive accounting (Longmans, Green, 1929); Industrial management (1932), Introduction to industrial management (1938) (McGraw-Hill).

FOOTE, Edmund Willard, 93 Lincoln St., Montclair, N.J. (1928) A De Witt Clinton High School, Soc. Studies Dept., chmn., TA. B A.B., 1903, A.M., 1904, Harvard. F New introduction to economics (with Lietz and Hanton) (Row, Peterson and Co., 1933); Getting a living (with Lietz and Hanton) (Row, Peterson and Co., 1940).

FORD, Amos Weeks, Ruston, La. (1941)

FORD, Caroll Willis, Univ. of Akron, Akron, Ohio. (1937) A Univ. of Akron, asst. prof., T. B A.B., 1925, Ph.D., 1936, Cornell. C Commercial bank liquidity. D 7, 6, 1. G S.

FORD, Robert Spivey, Univ. of Michigan, Bur. of Gov., Ann Arbor, Mich. (1929) A Univ. of Michigan, asso. prof. of econ., Bur. of Gov., dir., TR. B A.B., 1924, Texas Christian; A.M., 1926, California; Ph.D., 1933, Columbia. C The allocation of corporate income for the purpose of state taxation (N. Y. State Tax Com., 1933). D 6, 10, 7. F Realty tax delinquency in Michigan (1937), Financing government in Michigan (1942), The Michigan retail sales and use taxes (1941) (Univ. of Michigan, Bur. of Gov.). G S.

FOREMAN, Clarence James, 260 Ludlow Ave., Cincinnati, Ohio. (1918) A Univ. of Cincinnati, asso. prof. of econ., TR. B B.S., 1894, M.S., 1896, Michigan State Col.; A.M., 1901, Michigan; Ph.D., 1917, Wisconsin. C Common law basis of economic theory (Univ. of Wisconsin). D 1, 3, 11. E Social control; principles of profit making; efficiency versus scarcity monopolies. F Efficiency and scarcity profits; Rent liens and public welfare; American democracy, how to save it (1940). G S.

FORKOSCH, Morris David, 225 Broadway, New York City. (1939) A T; B. B LL.B., 1930, LL.M., 1932, St. John's Univ.; B.A., 1936, M.A., 1938, New York. D 11, 17, 1. E Liquor industry; incorporation of trade unions; patents and antitrust. F "The economics of American patent law," New York Univ. Law Quar. Rev., Jan.-Mar., 1940; "Discovery under the New York Civil Practice Act," Law Quart. Rev., Jan., 1939; "Henry George and Adam Smith," Amer. Jour. of Soc., June, 1942.

FOSS, Feodore F., Emerson Rd., Woodsdale, Wheeling, W.Va. (1918)

FOSTER, J. R., 118 Ashwood Ave., Summit, N.J. (1935)

FOSTER, Louis O., Western Reserve Univ., Cleveland, Ohio. (1938)

FOSTER, Major Bronson, New York Univ., School of Com., Washington Sq., New York City. (1939) A New York Univ., Dept. of Banking and Fin., chmn., prof., TA. B A.B., 1910, A.M., 1911, Carson-Newman. D 7, 1, 6. E Problems of commercial bank administration. F Co-author, Money and banking (Prentice-Hall, rev. 1940); Banking (Alexander Hamilton Inst., rev. 1942). G W.

FOTH, Joseph Henry, 1703 E. 50th Ter., Kansas City, Mo. (1925)

FOURNIER, Leslie Thomas, 19 Carvel Rd., Friendship Sta., Washington, D.C. (1935)

FOWLER, Edwin Joseph, 72 W. Adams St., Chicago, Ill. (1925)

FOX, A(braham) Manuel, 3002 P St., N.W., Washington, D.C. (1923) A Chinese Stabilization Fund Bd., Amer. member; fin. adviser to Chinese gov., A. B C.E., 1911, Cornell; A.M., 1924, New York. D 8, 6. F Contributor, Report of American Advisory Economic Mission to Minister of Finance, Venezuela, 1940. G WS.

FOX, Bertrand, 5920 2nd Pl., N.W., Washington, D.C. (1934)

FOX, Feramorz Young, Latter-Day Saints Bus. Col., Salt Lake City, Utah. (1919)

FOX, Martin J., 722 Ward Pkwy., Kansas City, Mo. (1924) A Farm Credit Admin., chief exam. D 15, 9, 7.

FOX, Mortimer, Jr., Riggs Nat. Bank, Washington, D.C. (1938) **A WPB, Statis. Div., res. advisor, Automotive Bd., Statis. Sec., Detroit, chief, RA.** B Ph.B., 1930, Yale; M.B.A., 1933, Harvard. D 10, 8, 11.

FRAIN, H. La Rue, Univ. of Pennsylvania, Wharton School, Dept. of Econ., Philadelphia, Pa. (1923)

FRAINE, Harold George, 830 Homestead Rd., Beechwood Pk., Upper Darby, Pa. (1929) **A SEC, prin. anal.**, R; Indiana Univ., asst. prof., T. B Com.E., 1926, Cincinnati; Ph.D., 1937, Minnesota. C Yields and investment performance of corporate bonds 1927-37. D 9, 11, 17. E Volume and characteristics of long-term financing. F "Superiority of high yield bonds not realized," Annalist, Oct. 1, 1937; "Investment experience of corporate bonds," Trusts and Estates, Mar., 1942.

FRAME, Samuel John, Commonwealth Bldg., 21 King St., E., Toronto, 2, Canada. (1918)

FRAME, William Alexander, Box 202, Fruitland Park, Fla. (1915)

FRANCIS, (Brother) Clement, Manhattan Col., New York City. (1934)

FRANKEL, Edward T., 491 State St., Albany, N.Y. (1942) A N. Y. State Dept. of Soc. Welfare, asso. statis., R. B B.S., 1912, City of New York. D 4, 18, 20. E Settlement and social welfare in N. Y. State; Inventing computing devices—mathematical tables, nomograms, slide rules. F "Charts and graphs," "Index numbers," "Variability," Collier's Nat. Ency., 1933; "Index number comparison chart," Nat. Ind. Conf. Bd. Bul., June, 1933; "Summaries of relief cases and expenditures for purpose of administrative control," Joint Com. on Relief Statis. of Amer. Pub. Welfare Asso. and Amer. Statis. Asso., Feb., 1939.

FRANKLIN, Harry Lee, 2700 Q St., N.W., Washington, D.C. (1938) A U. S. Tariff Com., prin. econ., R. B Ph.D., 1933, Univ. of Leipzig, Germany; study at Universities of Bonn, Heidelberg, Paris, and Kentucky. C Die arbeiter-aktienbeteiligung in den Vereinigten Staaten von Amerika (Leipzig, 1933). D 8, 15, 17. E Effect of British Empire preference on selected U.S. exports. F "Wartime agricultural and food control in Germany," For. Agric., Apr., 1940; "British food control," For. Agric., Dec., 1939.

FRASER, Herbert Freeman, Swarthmore Col.,

Swarthmore, Pa. (1926) **A** Swarthmore Col., chmn. of dept., prof., T. **B** M.A. (1st cl. Econ. Sc.), 1915, Univ. of Aberdeen, Scotland. **D** 8, 7, 6. **E** New developments in foreign trade. **F** Foreign trade and world politics (Crofts, 1926); Great Britain and the gold standard (Macmillan, 1933); Economic foundations of peace (Friends Service Com., 1935). **G** S.

FRAZER, George Enfield, Board of Trade Bldg., Chicago, Ill. (1935) **A** Frazer and Torbet, C.P.A., B. **B** A.B., 1909, Iowa; LL.B., 1912, Wisconsin; LL.D., Rockford, Washburn; L.H.D., Kenyon. **D** 11, 6, 17. **G** WI.

FREEDMAN, Arthur Merton, 2801 15th St., N.W., Apt. 104, Washington, D.C. (1940) **A WPB, asst. econ. anal., R. B** A.B., 1938, Toledo; M.A., 1939, Cincinnati. **D** 1, 4, 7. **E** Allocations criteria and procedures.

FREEMAN, Edwin Stewart, 12 Benton St., Wellesley, Mass. (1924) **A** Denison Mfg. Co., co. auditor, B. **D** 11, 4, 5. **F** "Distribution cost analysis," Nat. Asso. of Cost Accountants Bul., Sept., 1933; "Long-lived assets and depreciation policy," Nat. Asso. of Cost Accountants Bul., Oct., 1936; "Pricing the product," Year Book (Nat. Asso. of Cost Accountants), 1939.

§**FREEMAN, Herbert Charles,** 960 N. Broadway, Yonkers, N.Y. (1917)

FREEMAN, Ralph Evans, M.I.T., Cambridge, Mass. (1930) **A** M.I.T., Dept. of Econ., chmn., TA. **B** B.A., 1914, M.A., 1915, McMaster; B.Litt., 1921, Oxford. **D** 7, 8, 6. **F** Economics for Canadians (Putnams, 1924). **G** S.

FRENCH, Delbert Ransom, Univ. of Oregon, Eugene, Ore. (1929) **A** Univ. of Oregon, asso. prof. of econ., T. **B** B.A., 1915, Reed; M.A., 1920, Wisconsin; Ph.D., 1930, Stanford. **C** Significance of time deposits in the expansion of bank credit, 1922-28. **D** 2, 1, 7. **G** S.

FRENCH, Robert Warren, Louisiana State Univ., Col. of Com., University, La. (1934) **A** Louisiana State Univ., asso. prof., Bur. of Bus. Res., acting asst. dir., TRA. **B** A.B., 1932, M.A., 1933, Ph.D., 1937, Michigan. **C** American direct investments in Canada. **D** 8, 14, 12. **E** Cost of living studies and business conditions in La.

FRICKEY, Edwin, M-12 Littauer, Harvard Univ., Cambridge, Mass. (1924) **A** Harvard Univ., asso. prof., T. **B** A.B., 1917, Colorado Col.; M.A., 1926, Ph.D., 1930, Harvard. **C** A study of bank clearings, 1866-1914. **D** 5, 1. **E** Business cycles in U.S. **F** "Pattern of short-run fluctuation," 1934, "Theory of bias," 1937, Rev. of Econ. Statis.; Business cycles in the United States (Harvard Univ. Press, in press).

FRIDAY, David, 4525 Garfield St., Washington, D.C. (1910)

FRIEDBERG, Morris, Simmons Col., Boston, Mass. (1936) **A** Simmons Col., Dept. of Econ. and Soc., chmn., prof., TA. **B** A.B., 1914, A.M., 1925, Harvard; Docteur d'Université, 1926, Sorbonne, Paris. **C** L'influence sociale contemporaine de Charles Fourier (Giard, Paris, 1926). **D** 17, 6, 1. **F** Elements of price theory and practice (Simmons Col., 1942).

FRIEDMAN, Elisha Michael, 40 Wall St., New York City. (1918) **A** Consulting econ. **B** B.S., 1908, City of New York; B.C.S., 1913, New York. **D** 9, 6, 14. **F** International finance and its reorganization (Dutton, 1922); Russia in transition (Viking Press, 1932). **G** WI.

FRIEDMAN, Harry George, 345 W. 88th St., Apt. 9-C, New York City. (1908)

FRIEDMAN, Milton, 2480 16th St., N.W., Washington, D.C. (1941) **A U. S. Treas. Dept., prin. econ. anal.,** R; Nat. Bur. of Econ. Res., Res. Staff, member, R. **B** B.A., 1932, Rutgers; M.A., 1933, Chicago. **D** 1, 19, 4. **E** Incomes from independent professional practice (doctoral dissertation, accepted at Columbia). **F** "Professor Pigou's method for measuring elasticities of demand from budgetary data," Q.J.E., Nov., 1935; "The use of ranks to avoid assumption of normality implicit in analysis of variance," Jour. of Amer. Statis. Asso., Dec., 1937; Incomes from independent professional practice, 1929-36 (with Simon Kuznets) (Nat. Bur. of Econ. Res. Bul., Jan., 1939).

FRIEDRICH, William G., 123 Woodburn Rd., Raleigh, N.C. (1940)

FRISBEE, Ira Nobles, 303 Bank of Amer. Bldg., Beverly Hills, Calif. (1925)

FRITZ, Wilbert G., 305 N. Kenmore St., Arlington, Va. (1930) **A** Nat. Res. Plan. Bd., prin. econ., R.A. **B** B.S., 1927, Kansas State Col.; M.B.A., 1928, Northwestern; grad. work, 1928-29, New York, 1935-36, Columbia. **D** 10, 5, 4. **E** Economic areas of the U.S. (doctoral dissertation); war survey of energy resources; influence of materials and markets on location of industry. **F** Regional shifts in the bituminous coal industry (Univ. of Pittsburgh, Bur. of Bus. Res., 1935); Contributions to business-cycle theory (Edwards Bros., 1937); "Coal industry," in Energy resources and national policy (Nat. Res. Plan. Bd., 1939).

FRITZEMEIER, Louis H., 400 N. Lombard Ave., Oak Park, Ill. (1937) **A** Oak Park and River Forest Twp. High School, placement dir., TA. **B** B.S., 1930, Kansas State Teachers Col., Emporia; M.A., 1935, Chicago. **D** 17, 4, 5. **F** "Relative price fluctuations of industrial stocks in different price groups," Jour. of Bus., 1936.

FRIZOL, Sylvester M., 3435 W. 75th St., Los Angeles, Calif. (1940) **A** Loyola Univ., Dept. of Econ., head, T. **B** B.S., 1931, A.M., 1933, Loyola Univ., Chicago; Ph.D., 1941, Southern California. **C** The development of a policy of agricultural mercantilism in the United States. **D** 1, 15, 2. **E** Planning vs. a planned economy in postwar U.S.

FROEHLICH, Walter, Marquette Univ., Col. of Bus. Admin., Milwaukee, Wis. (1938) **A** Marquette Univ., asst. prof., T. **B** LL.D., 1923, Univ. of Vienna. **D** 1, 12, 10. **G** S.

FROEHLICH, Willard Howard, 1719 Upshur St., N.W., Washington, D.C. (1938) **A** Gen. Acctg. Office, prin. auditor, A. **B** A.B., 1926, Catholic; M.B.A., 1927, National; M.S., 1937, Univ. of Colorado. **D** 4, 12, 10. **G** S.

FROMAN, Lewis A., Univ. of Buffalo, Buffalo, N.Y. (1930) **A** Univ. of Buffalo, TA. **B** A.B., 1927, Missouri; Ph.D., 1931, Cornell. **C** Interdistrict relationships of the Federal Reserve Banks, 1921-29. **D** 7, 9, 11. **E** Co-author, Industrial supervision (for early pub.); graduate students in economics, 1904-40 (for Sept., 1942, A.E.R.). **F** Principles of economics (Irwin, 2 vols., 1940); Ownership and control of Buffalo business (mono., June, 1942). **G** E.

FRYXELL, Carl Arvid, Augustana Col., Rock Island, Ill. (1937) **A** Augustana Col., prof. of econ. and acctg., T. **B** A.B., 1921, Augustana; M.S., 1924, Illinois; C.P.A., 1924, Illinois. **D** 4, 9, 16. **G** S.

FULCHER, Gordon Scott, 3647 Van Ness St., Washington, D.C. (1941) **A** R. **B** B.S., 1905, M.A., 1906, Northwestern; Ph.D. (Physics), 1910, Clark. **D** 5, 18, 8. **E** Control of international trade to insure adequate supply and distribution of raw materials. **F** "Saving and underspending of individuals, 1926-37," Rev. of Econ. Statis., Feb., 1941. **G** W.

FULLER, Bert Cornelius, 2 Singer Ave., Spring Valley, Rockland Co., N.Y. (1916)

FULLER, Denton A., Jr., Citizens Nat. Bank, Wellsville, N.Y. (1936) **A** Amer. Inst. of Banking, instr. in econ., T; Citizens Nat. Bank of Wellsville, pres., chmn., bd. of dir., B. **B** B.S., 1929, Miami Univ.; M.B.A., 1939, Buffalo. **D** 7, 6, 1. **E** Financing of crude oil and gas production by commercial banks.

FULLER, John Kemp Goodloe, 436 7th Ave., Pittsburgh, Pa. (1938) **A** U. S. Steel Corp. of Del., market res. mgr., A. **B** B.S., 1921, Dartmouth. **D** 12, 13, 11.

***FULLER, Paul,** 2 Rector St., New York City. (1887)

FULMER, John Leonard, 4413 Maple Ave., Bethesda, Md. (1940) **A War Dept., capt., A;** Univ. of Virginia, asso. prof., TR. **B** B.S., 1933, Clemson; M.S., 1937, Cornell; Ph.D., 1939, Virginia. **C** An economic analysis of entrepreneurship in cotton production and the effect of shifting risk on in-

come expectancies. **D** 15, 1, 13. **E** Economics of cotton. **F** "Relationship of the cycle in yields of cotton and apples to solar and sky radiation," Q.J.E., May, 1942.

FUNKHOUSER, Richard Landis, 6693 Barnaby St., N.W., Washington, D.C. (1936)

FURNISS, Edgar Stephenson, Grad. School, Yale Sta., New Haven, Conn. (1915)

FURTH, Joseph Herbert, Lincoln University, Pa. (1942) **A** Lincoln Univ., prof. of econ., T. **B** J.D., 1921, Univ. of Vienna, Austria. **D** 10, 17, 1. **E** Relation between cyclical changes in wages and in employment. **F** American insolvency problems (in German) (mono., Perles, Vienna, 1934); "Critical period in bankruptcy," Yale Law Jour., 1932; "European trade barriers," Jour. of Market., 1940. **G** S.

GADEHOLT, Bjorn, Northwestern Elec. Co., Pub. Service Bldg., Portland, Ore. (1941) **A** Northwestern Elec. Co., rate and statis. engr., AB. **B** B.S., 1923, Oregon Inst. of Tech.; grad. work, Univ. of Oregon. **D** 14, 4, 5.

GAFFEY, John Dean, 215 Ingraham St., N.W., Washington, D.C. (1940) **A** **OPA, Chemical Br., econ., R;** R. **B** B.A., M.A., 1935, Ohio State; Ph.D., 1940, Columbia. **C** The productivity of labor in the rubber tire manufacturing industry (Columbia Univ. Press, 1940). **D** 17, 10, 5. **E** Economic organization of the plastics industry. **F** "To how much wage is the labor force entitled?" Proc., Silver Bay Ind. Conf., 1940; "Labor productivity in tire manufacturing," A.E.R., Dec., 1941.

GAGLIARDO, Domenico, Univ. of Kansas, Lawrence, Kan. (1925) **A** Univ. of Kansas, prof. of econ., T. **B** A.B., 1922, Kansas; A.M., 1924, Harvard; Ph.D., 1931, Chicago. **C** A history of Kansas labor legislation. **D** 17, 18, 1. **E** Fatal accidents in Kan. coal mines. **F** The Kansas industrial court (1941). Labor legislation for Kansas coal mines (1936) (Univ. of Kansas Press); "Strikes in a democracy," A.E.R., Mar., 1941. **G** S.

GALBRAITH, John Kenneth, OPA, Washington, D.C. (1939) **A** **OPA, deputy admin., A.** **B** B.S., 1931, Toronto; M.S., 1933, Ph.D., 1934, California. **C** California county expenditures (Giannini Found., Univ. of California). **D** 1, 8, 15. **F** Modern competition and business policy (Oxford Univ. Press, 1937); The economic effects of the public works expenditures (Nat. Res. Plan. Bd., 1940). **G** WS.

GALBREATH, C(harles) Edward, 3746 Jocelyn St., N.W., Washington, D.C. (1934) **A** **OPA, asso. econ., R;** Alfred Univ., asst. prof., T. **B** A.B., 1931, Colgate; A.M., 1932, Ph.D., 1941, Cornell. **C** Sterling area: its development and operation. **D** 1, 10, 7.

GALE, Hoyt Rodney, 1775 Hill Dr., Eagle Rock, Los Angeles, Calif. (1938) **A** Pasadena Junior Col., teacher, T. **B** A.B., 1926, Harvard; Ph.D., 1929, Stanford (Geology and Paleontology); M.A., 1936, California at Los Angeles (Econ.). **C** Marine Pliocene and Pleistocene mollusca of California (Memoirs, San Diego Soc. of Nat. Hist., 1931). **D** 1, 5, 3. **E** Primary effects of debts on purchasing power; relation between government economic power and the maintenance of democracy. **F** Basic principles of economics (Kingshall Adv. Agency, Pasadena, 1941).

GALENSON, Walter, 255 N. Thomas St., Arlington, Va. (1938) **A** **OPA, econ., A;** Hunter Col., instr., T. **B** A.B., 1934, M.S., 1935, Ph.D., 1940, Columbia. **C** Rival unionism in the United States (Amer. Coun. of Pub. Affairs, 1940). **D** 17, 2, 4. **F** "The New York anti-injunction law and the courts," Columbia Law Rev., Jan., 1942.

GALIGNIANA, Lucas M., Arendles 2439, Buenos Aires, Argentina, S. Amer. (1942)

GALLOWAY, Lee, Lake Wales, Fla. (1909) **A** Retired. **B** B.S., 1896, Minnesota; Ph.D., 1907, New York. **C** Economics of dock management. **D** 11, 17, 2. **E** Public relations policies. **F** Business organization (Alexander Hamilton Inst., 1918); Office management (Ronald Press, 1920); Advertising and selling (Alexander Hamilton Inst., 1917). **G** W.

GALLOWAY, Leon James, 15 Twinlawns Ave., Hicksville, N.Y. (1934) **A** Hicksville High School, Bus. Dept., head. **B** B.S., 1926, Syracuse; M.S., 1932, M.A., 1933, Columbia. **D** 1, 4, 7.

GALPIN, Henry L., 145 Everit St., New Haven, Conn. (1911) **A** Union and New Haven Trust Co., vice-pres. **B** B.A., 1902, Yale.

GAMBS, John Sake, 2617 University Pl., Washington, D.C. (1939) **A** Louisiana State Univ., asso. prof. **B** A.B., 1920, M.A., 1924, George Washington; Ph.D., 1932, Columbia. **C** Decline of the I.W.W. (Columbia Univ. Press, 1932). **D** 18, 17, 1.

GANE, Frank Herbert, Northwestern Univ., Dept. of Econ., Evanston, Ill. (1934) **A** Northwestern Univ., asst. prof., T. **B** B.S., 1924, Kansas Wesleyan; M.A., 1928, Kansas; Ph.D., 1935, Northwestern. **C** Analysis of double liability feature of American banking law. **D** 7, 1, 16. **E** Textbook on money and banking. **G** S.

GARDNER, Edward Joseph, 505 First Nat. Bank Bldg., Hamilton, Ohio. (1942) **A** Edward J. Gardner and Co., accountants, auditors, tax consultants, prop., RAB. **B** B.C.S., 1922, St. Xavier. **D** 6, 5, 4. **E** U. S. productive capacity, 1925-29 and 1930-40; public finance in Ohio.

GARDNER, J. Fred, 361 Olancha Ave., Pittsburgh (10), Pa. (1942)

GARDNER, Kelsey Beeler, 7527 17th St., N.W., Washington, D.C. (1924) **A** Farm Credit Admin., prin. agric. econ., R. **B** A.B., 1920, Washburn; M.B.A., 1922, Harvard. **D** 15, 19, 11. **E** Retailing of citrus fruits in small markets. **F** Joint use of a sales organization by two co-operative associations (U. S. Dept. of Agric., 1927); Terminal auctions as marketing agencies for farmers' cooperatives (Farm Credit Admin., 1938); A business analysis of the Producers Live Stock Commission Association at National Stock Yards, Illinois (U. S. Dept. of Agric., 1929). **G** S.

GARDNER, Walter Richmond, 115 Leland St., Chevy Chase, Md. (1940)

GARFIELD, Frank Richardson, 510 Warwick Pl., Somerset, Chevy Chase, Md. (1941) **A** Fed. Res. Sys., Bd. of Gov., Div. of Res. and Statis., Dom. Bus. Sec., chief, RA. **B** A.B., 1923, Amherst; grad. work, 1923-26, Cornell. **D** 5, 13, 19. **E** Index of production of consumers goods (with Paul Simpson). **F** Co-author, Problem economics (Harper, 1928), "Construction costs and real property values," Jour. of Amer. Statis. Asso., Dec., 1937; "General Indexes of business activity," Fed. Res. Bul., June, 1940.

GARIS, Roy Lawrence, Vanderbilt Univ., Nashville, Tenn. (1937) **A** **N. C. and St. L. Ry., asst. to pres. (dir. of educa., B);** Vanderbilt Univ., asso. prof. of econ., T. **B** B.A., 1919, M.A., 1920, Virginia; Ph.D., 1927, Columbia. **C** Immigration restriction (Macmillan, 1927). **D** 7, 14, 20. **F** Principles of money, credit, and banking (Macmillan, 1934). **G** WS.

GARLOCK, Fred Landreth, 7817 Old Chester Rd., Bethesda, Md. (1930) **A** Bur. of Agric. Econ., sr. agric. econ. **B** B.A., 1920, Iowa; M.A., 1921, Ph.D., 1941, Columbia. **C** Country banking in Wisconsin during the depression (U. S. Dept. of Agric., Tech. Bul. 777). **D** 7, 15, 5. **F** Bank failures in Arkansas (Ark. Agric. Exp. Sta., 1935); Long-term loans of Iowa banks (Iowa Agric. Exp. Sta., 1930). **G** S.

GARMAN, Cameron G., 114 Allan Rd., Friendship Sta., Washington, D.C. (1931)

GARNSEY, Morris Eugene, Univ. of Colorado, Boulder, Colo. (1930) **A** **Nat. Res. Plan. Bd., consultant, Reg. VII, R;** Univ. of Colorado, asst. prof., TR. **B** A.B., 1928, Drury; M.A., 1929, Clark; Ph.D., 1937, Harvard. **C** Belgian monetary and banking policy under inflation and deflation, 1919-35. **D** 16, 11, 1. **E** Economic problems of the mountain states region, arising out of war mobilization and postwar readjustment. **F** "Crise et reforme du Systeme Bancaire en Belgique," Bul. de l'Inst. des Recherches Economiques (Louvain), Nov., 1938; "International price disparities and their measurement," Fifth Ann. Conf., Cowles Com. for Res. in Econ., July, 1939. **G** S.

GARRETT, Seymour Stanton, 115 Oak Hill Rd., Ithaca, N.Y. (1921) **A** Cornell Univ., prof., T; **E.S.M.D.T. Ordnance Inspection Course, B.** **B**

C.E., 1904, Cornell. **D** 1, 11, 17. **F** "Wages and the collective wage bargain," A.E.R., Dec., 1928.
GARTLEY, Russell, 100 W. Monroe St., Chicago, Ill. (1942) **A** A. S. Huyck and Co., secy.-treas., B. **D** 9, 6, 10. **E** Economic consequences of federal taxing of municipal obligations. **F** Chicago—the city of destiny (A. C. Allyn, 1934); "Examination of municipal bonds," Midwestern Banker, 1926; "The legal transcript," Daily Bond Buyer, 1926.
GARVER, Earl S., 179 Dwight St., New Haven, Conn. (1940) **A** Trinity Col., instr., TR. **B** A.B., 1933, Manchester. **D** 7, 9, 8. **E** Mortgage insurance (doctoral dissertation, Yale).
GARVER, Frederic B., Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1911) **A** Univ. of Minnesota, prof. of econ., TR. **B** A.B., 1909, LL.D., 1939, Nebraska; Ph.D., 1917, Chicago. **C** The subvention in the finances of Pennsylvania (privately pub.). **D** 1, 10, 4. **E** Location of industry in the U.S.; public control of competitive practices. **F** Principles of economics (with A. H. Hansen) (Ginn, 1937). **G** WS.
GARWOOD, John Delvert, Belden, Neb. (1941) **A** Morningside Col., T. **B** A.B., 1936, Wayne, Nebraska, State Teachers Col.; Ph.M., 1940, Wisconsin. **D** 6, 1, 7.
GAUM, Carl Gilbert, Rutgers Univ., Univ. Ext. Div., New Brunswick, N.J. (1934) **A** Rutgers Univ., prof., TRA. **B** B.S., 1903, M.E., 1909, Alabama Poly. Inst. **D** 17, 18, 5. **F** Labor problems (Rutgers Univ., 1934).
GAUMNITZ, Erwin A., Univ. of Wisconsin, Madison, Wis. (1941)
GAY, Edwin Francis, Henry E. Huntington Lib., San Marino, Calif. (1904) **A** Henry E. Huntington Lib., Res. Staff, chmn. **B** A.B., 1890, Michigan; Ph.D., 1902, Univ. of Berlin, Germany; LL.D., 1918, Harvard, 1920, Michigan, 1927, Northwestern, 1935, Tulane, 1940, Occidental; L.H.D., Manchester, England. **C** Inclosures in sixteenth century England. **D** 2. **E** The rise of an English country family (the Temples), 16th-17th century; the Industrial Revolution. **G** SIE.
GAY, Merrill Cochrane, 6804 Rhode Island Ave., College Park, Md. (1940) **A U. S. Treas., sr. econ., A;** Univ. of Maryland, asst. prof., T. **B** A.B., 1929, Oberlin; M.A., 1931, Michigan; Ph.D., 1936, Illinois. **C** United States trade agreements program. **D** 8, 14, 1. **E** Trade potentials of certain South American countries. **F** "Trade agreements and Michigan agriculture," Mich. Quar. Bul., 1939.
GAYER, Arthur David, 88 Morningside Dr., New York City. (1938) **A** Queens Col., asso. prof. of econ., TR. **B** B.A., 1925, M.A., 1928, Ph.D., 1930, Oxford. **C** Fluctuations of industry and employment in England, 1815-50. **D** 7, 8, 5. **E** Growth and fluctuation of the British economy, 1790-1850; monetary economics. **F** Monetary policy and economic stabilization (Macmillan, rev. 1937); Public works in prosperity and depression (Nat. Bur. of Econ. Res., 1935); American economic foreign policy (Coun. of For. Rela., 1939). **G** WSE.
GEDANKEN, Irving, Service Co., 507th Parachute Inf., Ft. Benning, Ga. (1942)
GEE, Wilson, Univ. of Virginia, Minor Hall, Charlottesville, Va. (1923) **A** Univ. of Virginia, prof. of rural econ., Inst. for Res. in Soc. Sci., dir., TRA. **B** B.S., 1908, D.Sc., 1937, Clemson; M.A., 1910, South Carolina; Ph.D. (Zool.), 1913, California; LL.D., 1938, Alabama. **D** 15, 1, 4. **E** Research method and procedure in the social sciences; economics of agricultural production. **F** Social economics of agriculture (Macmillan, rev. 1942); American farm policy (Norton, 1934); Research barriers in the South (Century, 1932). **G** WSE.
GEMMILL, Paul Fleming, Univ. of Pennsylvania, 28 Logan Hall, Philadelphia, Pa. (1925)
GEORGE, W. D., People's Savings Bank Bldg., Pittsburgh, Pa. (1912)
GERNAND, Arthur C., 2000 Connecticut Ave., Washington, D.C. (1942)
GERSTENBERG, Charles William, 70 5th Ave., New York City. (1910) **A** Prentice-Hall, chmn. of bd., B. **B** Ph.B., 1904, J.D., 1916, New York. **D** 6, 10. **F** Financial organization and management (Prentice-Hall, 1924). **G** WSE.
GETTELL, Eunice Burdick (Mrs. Richard G.), 2480 16th St., N.W., Washington, D.C. (1941) **A BEW, econ. anal., R. B** A.B., 1936, Wheaton Col., Norton, Mass.; M.A., 1938, Bryn Mawr. **D** 8, 7, 1.
GETTELL, Richard Glenn, 2480 16th St., N.W., Washington, D.C. (1938) **A OPA, rationing exec., A;** Yale Univ., asst. prof. **B** A.B., 1933, Amherst; Ph.D., 1940, California. **C** Pluralistic competition. **D** 10, 11, 12. **F** "Changing competitive conditions in the marketing of tires," Jour. of Market., Oct., 1941. **G** S.
GIBBS, George, Jr., Advanced Base Div., Bur. of Yards and Docks, Room 3029, Navy Bldg., Washington, D.C. (1942)
GIBSON, Ernest Willis, Box 92, Sta. A, Searcy, Ark. (1940) **A** Harding Col., prof., T. **B** B.A., 1903, Transylvania; M.A., 1929, Kentucky; grad. work, 1935-37, Northwestern. **D** 4, 5, 1.
GIDEONSE, Harry David, Brooklyn Col., Brooklyn, N.Y. (1925) **A** Brooklyn Col., pres., A. **B** B.S., 1923, M.A., 1924, Columbia; Diplome des Hautes Etudes Internationales, 1928, Univ. of Geneva, Switzerland. **C** Transfert des reparations et Plan Dawes (Payot, Geneva, Paris, 1928). **D** 8, 9, 3. **E** Economic factors in postwar reconstruction. **F** The international bank (Rutgers Univ. Press, 1930); The higher learning in a democracy (Farrar and Rinehart, 1936); Organized scarcity and public policy (Univ. of Chicago Press, 1939). **G** WSI.
GIDEONSE, Max, Rutgers Univ., New Brunswick, N.J. (1930) **A** Rutgers Univ., asso. prof., T. **B** A.B., 1925, A.M., 1926, Rochester; Ph.D., 1932, Harvard. **C** Dutch Baltic trade in the eighteenth century. **D** 8, 2, 3. **E** International economic relations. **G** S.
GIFFORD, Walter Sherman, 195 Broadway, New York City. (1909)
GILBERT, Donald Wood, Univ. of Rochester, Rochester, N.Y. (1934) **A** Univ. of Rochester, Grad. School of Arts and Sci., dean, prof. of econ., TA. **B** A.B., 1921, M.A., 1923, Rochester; M.A., 1925, Ph.D., 1932, Harvard. **C** Government and finances of Rochester, New York, 1817-92. **D** 6, 5, 4. **E** Tax program for economic stability. **F** "Taxation and economic stability," Q.J.E., May, 1942; "Growth of municipal finance, 1902-32," Nat. Tax Asso. Bul., Nov., 1941; "Cycles in municipal finance," Rev. of Econ. Statis., Nov., 1940. **G** WS.
GILBERT, Horace Nathaniel, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1928) **A Harvard Univ., Grad. School of Bus. Admin., lecturer, TRA;** California Inst. of Tech., prof. of bus. econ., TR. **B** A.B., 1923, Univ. of Washington; M.B.A., 1926, Harvard. **D** 13, 10, 17. **E** Aircraft and shipbuilding industries (specialized problems in connection with war expansion). **F** Contributor, Problems in business economics (A. W. Shaw, rev. 1929); Introduction to business (with C. I. Gragg) (McGraw-Hill, rev. 1933). **G** S.
GILBERT, Milton, U. S. Bur. of For. and Dom. Com., Washington, D.C. (1939)
GILBOY, Elizabeth Waterman (Mrs. Glennon), R.F.D. 1, Falls Church, Va. 1937)
GILE, Bueford Monroe, Louisiana State Univ., Dept. of Agric. Econ., University Sta., Baton Rouge, La. (1925) **A** Louisiana State Univ., Dept. of Agric. Econ., head, prof., TRA. **B** B.S.A., 1913, Wisconsin; M.A., 1925, Ph.D., 1927, Minnesota. **C** The farm credit situation in Minnesota (Univ. of Minnesota Exp. Sta. Res. Bul. 55). **D** 7, 15. **E** Supervising and directing projects in farm management, land economics, marketing, farm credit, and land tenure; the fur trapper and land resources in the coastal marshes of La. (with Verlander). **F** "Functioning of the federal intermediate credit banks," Jour. of Farm Econ., Jan., 1931; General indicators of the condition of Arkansas banks (Ark. Agric. Exp. Sta. Bul. No. 298, 1934); "State tax collections compared with special aids in Louisiana parishes," La. Rural Econ., Jan., 1942.
GILL, Corrington Calhoun, 2630 Adams Mill Rd., Washington, D.C. (1928)
GILL, John David, 260 S. Broad St., Philadelphia, Pa. (1930) **A** Atlantic Refining Co., econ. and

dir., B. **B** B.S. in Ch.E., 1911, Pennsylvania. **D** 13, 1, 4.

GILLESPIE, Jesse Roscoe, 1112 Beech St., South Pasadena, Calif. (1928) **A** Los Angeles City Schools, T. **B** B.S., 1925, James Millikin; M.A., 1928, Illinois. **D** 2, 15, 12.

GILLETT, Roy Lewis, R.D. 1, Delmar, N.Y. (1920) **A** U. S. Dept. of Agric., Bur. of Agric. Econ., sr. agric. statis.; N. Y. State Dept. of Agric. and Markets, dir. of agric. statis., A. **B** B.S., 1917, Ph.D., 1922, Cornell. **C** A study of farm labor in Seneca County, New York (N. Y. State Dept. of Agric. and Markets, Agric. Bul.). **D** 15, 4, 12. **E** Commercial utilization and marketing of milk; farm labor problems. **F** Statistics relative to the dairy industry in New York (N. Y. State Dept. of Agric. and Markets, 1923, ff.).

GILLIM, Marion Hamilton, Mount Holyoke Col., South Hadley, Mass. (1940) **A Mount Holyoke Col., instr., T. B** A.B., 1930, Mount Holyoke; A.M., 1938, Columbia. **D** 6, 4, 1. **E** Incidence of excess profits taxation (doctoral dissertation, Columbia).

GILLIS, Albert Dwight, 1658 Krameria St., Denver, Colo. (1941) **A** Cashman, Evans and Brown, casualty ins. engr., B. **B** A.B., 1942, Denver. **D** 9, 14, 10. **E** Analysis of Denver city government.

GILMORE, Eugene Allen, Jr., Univ. of Nebraska, Lincoln, Neb. (1929) **A American Embassy, Montevideo, Uruguay, sr. econ. anal., R;** Univ. of Nebraska, asso. prof., T. **B** B.A., 1924, Ph.D., 1935, Wisconsin; M.B.A., 1926, Harvard. **C** The monetary theories of Hawtrey, Hayek, Keynes and Robertson (abstract in Univ. of Wisconsin Thesis Ser., 1935). **D** 8, 7, 1. **F** Deposit banking facilities in Nebraska (Neb. Studies in Bus., 1937). **G** S.

GINZBERG, Eli, 435 W. 119th St., New York City. (1931) **A** Columbia Univ., instr., TR. **B** A.B., 1931, A.M., 1932, Ph.D., 1933, Columbia. **C** The house of Adam Smith. **D** 1, 17. **E** Determinants of occupational choice and adjustment. **F** The illusion of economic stability (1939). Grass on the slag heaps—the story of the Welsh miners (1942). American labor leadership (in press) (Harper). **G** WS

GINZBURG, Benjamin, 5209 Chevy Chase Pkwy., N.W., Washington, D.C. (1938) **A** OPA, prin. econ. writer, R. **B** B.Lit., 1919, Columbia; A.M., 1923, Ph.D., 1926, Harvard. **C** Philisophy of Spinoza. **D** 10, 6, 5. **E** Quarterly reports of OPA operations; economic brief to support constitutionality of price control.

GIRARD, Richard Anthony, New York Univ., Washington Square Col., Dept. of Econ., New York City. (1930)

GITELSON, M(oses) L(eo), 845 West End Ave., New York City. (1924) **A** Nehemiah Gitelson and Sons, partner, B. **B** B.S., 1916, City of New York; M.B.A., 1921, Ph.D., 1926, New York. **C** Economic analysis of the cotton converting industry (privately pub.). **D** 2, 11, 12. **E** Federal Trade Commission and the fair trade practice codes; trends in trade associations.

GIVENS, Meredith Bruner, 342 Madison Ave., Room 1127, New York City. (1923) **A U. S. Employ. Serv. for N. Y., dir., res. and statis.;** N. Y. State Dept. of Labor, Div. of Place. and Unemploy. Ins., dir., res. and statis., RA. **B** A.B., 1920, Drake; Ph.D., 1929, Wisconsin. **C** Productivity changes in the iron and steel industry. **D** 17, 18, 10. **E** Labor market studies. **F** "The iron and steel industry," in Ency. of the Soc. Sci. (1932); "Shifting occupational patterns," in Recent social trends (1933); ed., Government statistics (S.S.R.C., 1936). **G** WS.

GLASER, Ezra, 2900 S. 2nd St., Arlington, Va. (1938) **A Navy Dept., Office of the Secy., statis., R;** Nat. Res. Plan. Bd., statis., R. **B** B.S., 1934, New York; M.A., 1937, Columbia. **D** 4, 19, 11. **E** Unit costs for Navy equipment. **F** "Assets and income of two hundred large corporations," appendix in Structure of the American economy (Nat. Res. Plan. Bd.); contributor, Patterns of resource use, Capital requirements: iron and steel (Nat. Res. Plan. Bd.). **G** S.

GLASSMAN, Alfred Richard, 2762 Ocean Ave., Brooklyn, N.Y. (1937) **A** Consultant, B. **B** B.C.S., 1934, New York. **D** 11, 12, 13.

GLASSON, William Henry, 710 Buchanan Rd., Durham, N.C. (1940) **A** Duke Univ., prof. emeritus. **B** Ph.B., 1896, Cornell; Ph.D., 1900, Columbia; LL.D., 1939, Duke. **C** History of military pension legislation in the United States (Columbia Univ. Press, 1900, and Oxford Univ. Press, N.Y., 1918). **D** 7, 6, 9. **G** WSE.

GLAVES, Cecil Robert, Lewis Inst., 1951 W. Madison St., Chicago, Ill. (1937)

GLENN, John Mark, 1 Lexington Ave., New York City. (1894) **A** Russell Sage Found., retired. **B** M.A., 1879, LL.D., 1907, Washington and Lee; LL.B., 1882, Maryland; M.A. (Hon.), 1902, Johns Hopkins. **G** WS.

GLIDDEN, Robert Thorwald, 6137 N. Glenwood Ave., Chicago, Ill. (1940) **A** Int. Harvester Co., econ., R. **B** A.B., 1935, Dartmouth; M.A., 1942, Boston Univ. **D** 1, 11, 8. **E** Agricultural implement production in a war economy.

GLOCKER, Theodore Wesley, Univ. of Tennessee, School of Bus. Admin., Knoxville, Tenn. (1937) **A** Univ. of Tennessee, School of Bus. Admin., dir., TRA. **B** B.A., 1903, Ph.D., 1907, Johns Hopkins. **C** Government of American trade unions. **D** 17, 9, 7. **E** History of trade unionism in U.S. **F** Contributor, Studies in American trade unionism, edited by Hollander and Barnett (Henry Holt, 1907); Structure of American trade unions (Johns Hopkins Press, 1913); "Amalgamation of related trades," A.E.R., Sept., 1915. **G** WSE.

GLOVER, Charles Arthur, 515 Upper Mountain Ave., Upper Montclair, N.J. (1925) **A** Amer. Tel and Tel. Co., statis., R. **B** B.S., 1921, California; M.B.A., 1923, Harvard. **D** 10, 11, 17.

GLOVER, John Desmond, 10 Holyoke House, Harvard Univ., Cambridge, Mass. (1940) **A** Harvard Univ., Grad. School of Bus. Admin., instr. in bus. admin. **B** Ph.B., 1936, Brown; M.B.A., 1939, M.A., 1942, Harvard. **D** 6, 8, 10. **E** Institutional aspects of government lending. **F** "Lending policy of RFC," Harvard Bus. Rev., 1939; "Defense lending, 1918 and 1941," Harvard Bus. Rev., 1941.

GLÜCK, Elsie, 3419 Porter St., N.W., Washington, D.C. (1942) **A** Soc. Sec. Bd., asso. econ., R. **B** A.B., 1920, Ph.D., 1929, Wisconsin. **C** John Mitchell, trade union leader (pub. as John Mitchell, miner, John Day Co., 1929). **D** 17, 19, 18. **E** Economic status of the self-employed and its implications for a program of social insurance. **F** "Trade unionism," "Co-operation," in Ency. of the Soc. Sci., 1930-35.

GOELTZ, J. Donald, Univ. of Tennessee, 402 Ayres Hall, Knoxville, Tenn. (1937)

GOETZ, Billy Earl, 1756 Cedar Rd., Homewood, Ill. (1936) **A** E. O. Sessions and Co., asso. consulting, T. **B** Ph.B., 1924, Chicago. **D** 11, 1, 4. **E** Managerial accounting for manufacturing enterprises (doctoral dissertation). **F** "What's wrong with accounting," Advanced Manage., Fall, 1939; "Relationship of cost accounting and engineering economy," Jour. of Engr. Educa., Apr., 1941.

GOETZ, Jacob H., 783 E. 17th St., Brooklyn, New York City. (1914) **A** Whitman, Ransom, Coulson and Goetz, member. **B** LL.B., 1905, New York. **D** 14, 10, 8.

GOLD, Bela, 3007 N. Pershing Dr., Arlington, Va. (1938)

GOLD, Sonia S. (Mrs. Bela), 3007 N. Pershing Dr., Arlington, Va. (1942)

GOLDENBERG, Leon, 3517 E. Capitol St., S.E., Washington, D.C. (1936) **A BEW, econ. anal., TR. B** B.C.S., 1925, Univ. of Liège; M.A., 1929, Chicago; Ph.D., 1941, Northwestern. **C** Income and savings in France, 1871-1914 (abstract, Northwestern Univ. Summaries of Doctoral Dissertations, 1941). **D** 3, 13, 1. **E** Projects dealing with the economics of German occupied Europe.

GOLDENWEISER, Emanuel Alexander, 5914 Cedar Pkwy., Chevy Chase, Md. (1911) **A** Bd. of Gov., Fed. Res. System, dir. of res. and statis., R. **B** A.B., 1903, Columbia; A.M., 1905, Ph.D., 1907, Cornell. **C** Russian immigration to the United States. **D** 7, 6. **F** Federal Reserve System in operation (McGraw-Hill, 1935). **G** WSE.

GOLDFIELD, Edwin D., 5809 6th St., N.W., Washington, D.C. (1941) **A Bur. of the Census, asst. statis. B** B.S., 1939, City of New York; A.M., 1940, Columbia. **D** 4, 17, 20.

GOLDHAMMER, Bernard, 1937 S.E. 42nd Ave., Portland, Ore. (1940) **A Bd. of Investigation and Res., asso. econ. B** B.A., 1937, Reed; M.A., 1938, Colorado Col. **D** 4, 14, 1.

GOLDNER, William, 764 Foerster St., San Francisco, Calif. (1940) **A OPA, admin. asst., A. B** A.B., 1937, Stanford. **D** 4, 10, 18. **F** The costs of medical care in the Agricultural Workers Health and Medical Association (Agric. Workers Health and Medical Asso., Nov., 1941).

GOLDSTEIN, Betty (Mrs. Leo Fishman), 1900 F St., N.W., Washington, D.C. (1941) **A OPA, asso. econ., R. B** B.A., 1938, M.A., 1940, New York. **D** 19, 10. 17.

GOLDWASSER, Betti Carolyn (Mrs. Ezra Glaser), 2900 S. 2nd St., Arlington, Va. (1938) **A OPA, asso. econ., R. B** A.B., 1934, Bryn Mawr; A.M., 1936, Radcliffe. **D** 11, 5, 18. **E** Price research in iron and steel. **F** "Assets and income of 200 largest nonfinancial and 50 largest financial corporate units" (with Ezra Glaser), in Structure of the American economy (N.R.C. Report); "Revised benefit schedule under old-age insurance" (with L. L. Schmitter), Soc. Sec. Bul., Sept., 1939. **G** S.

GOLDWATER, Melvin, Brown Univ., Econ. Dept., Providence, R.I. (1942) **A** Brown Univ., asst. in econ., T. **B** B.S., 1942, New York. **D** 3, 10, 11.

GOLIGHTLY, Trueman Harlan, 4010 Madison St., Chicago, Ill. (1941) **A** Madison-Crawford Nat. Bank, pres., B. **B** Dip. in Com., 1936, Northwestern. **D** 7, 3, 10. **F** Sound management policies and regulations vs. mandatory deposit-capital ratio as a yardstick of depositor protection (Ill. Bankers Asso., Feb.. 1940).

GOLOVIN, Nicholas E., 68-63 108th St., Forest Hills, N.Y. (1941) **A** R. H. Macy and Co., Inc., operating exec., B. **B** A.B., 1933, M.A., 1936, Columbia. **D** 12, 4, 5.

GONZALEZ, Richard J., Humble Oil and Refining Co., Houston, Tex. (1935) **A** Humble Oil and Refining Co., econ., B. **B** B.A., 1931, M.A., 1932, Ph.D., 1934, Texas. **C** Some aspects of the monetary use of silver. **D** 7, 4, 5.

GOODBAR, Joseph Ernest, 36 W. 44th St., New York City. (1937) **A U. S. Dept. of Com., tax consultant, R;** attorney; Boston Univ., law lecturer, TR. **B** A.B., 1910, Arkansas; LL.B., 1930, Boston Univ.; LL.M., 1931, S.J.D., 1933, Harvard. **C** Conflict between banking law and economic law (enlarged, revised, pub. as Managing the people's money, Yale Univ. Press, 1935). **D** 3, 7, 10. **E** Free enterprise and postwar full employment; war finance to prevent inflation and preserve free enterprise. **F** "Pay with extra production tax," Hearings, Ways and Means Com., 1942; "Stop and go banking methods," Hearings, House Banking Com., 1938. **G** W.

GOODE, Richard B., 3639 Jenifer St., N.W., Washington, D.C. (1941) **A** U. S. Bur. of the Budget, asso. fiscal anal., R. **B** A.B., 1937, Baylor; M.A., 1939, Kentucky. **D** 6, 5, 1. **E** Corporate institution and the tax problem; economic significance of recent federal tax legislation. **F** Valuation by capitalization of earnings (Univ. of Kentucky Bul.. 1939).

GOODEN, Orville Thrasher, Hendrix Col., Conway, Ark. (1920) **A** Hendrix Col., Dept. of Econ., head, T. **B** A.B., 1914, Southwestern; A.M., 1916, Ph.D., 1926, Columbia. **C** The Missouri and North Arkansas Railroad strike (Columbia Univ. Press). **D** 17, 10, 4. **G** S.

GOODHUE, Everett Walton, 6 Whitaker Apts., Hanover, N.H. (1905) **A** Dartmouth Col., prof., T. **B** A.B., 1900, A.M., 1905, Dartmouth. **D** 7, 1, 17. **F** "Economics as a social philosophy," Amer. Jour. of Ethics, Oct., 1925. **G** WS.

GOODRICH, Carter, Columbia Univ., Fayerweather Hall, New York City. (1921)

GOODWIN, Eneas Bernard, Loyola Univ., 6525 Sheridan Rd., Chicago, Ill. (1932) **A** Loyola Univ., Dept. of Econ., head, prof., TR. **B** J.D., 1919, John Marshall Law School. **D** 3, 4, 8. **E** Income distribution. **G** 1.

GORDMAN, Howard S., 891 Warren St., Albany, N.Y. (1935)

GORDON, Jack, 33 Remsen St., Brooklyn, N.Y. (1942)

GORDON, Joseph, 1112 16th St., N.W., Washington, D.C. (1941) **A Office of Petroleum Co-ordinator for War, econ., R;** Merrill-Lynch, Pierce, Fenner and Beane, invest. anal., R. **B** B.F.S., 1930, Georgetown Univ. **D** 9, 11, 8. **E** Analysis of petroleum prices and petroleum supply-demand relationships.

GORDON, Leland James, Granville, Ohio. (1939) **A** Denison Univ., Dept. of Econ., head, prof. **B** B.S., 1922, M.A., 1924, Ph.D., 1928, Pennsylvania. **C** American relations with Turkey: an economic interpretation (Univ. of Pennsylvania Press, 1932). **D** 19, 17, 8. **E** Government protection of consumers. **F** Economics for consumers (American Book, 1939). **G** WS.

GORDON, Lincoln, 6323 Delaware St., Chevy Chase, Md. (1941) **A WPB, Requirements Com., prin. econ., R;** Harvard Univ., instr. in gov., T. **B** A.B., 1933, Harvard; D.Phil. (Oxon.), 1936, Oxford. **C** The public corporation in Great Britain (Oxford Univ. Press, 1938). **D** 10, 11, 14. **F** Government and the American economy (with M. Fainsod) (Norton, 1941). **G** S.

***GORDON, Louis D.,** 540 W. Williams Ave., Fallon, Nev. (1916)

GORDON, Monte Jeffrey, 1555 Grand Concourse, Bronx, New York City. (1942)

GORDON, Robert Aaron, Univ. of California, Dept. of Econ., Berkeley, Calif. (1936) **A WPB, Com. on Requirements, econ.;** Univ. of California, asso. prof., T. **B** A.B., 1928, Johns Hopkins; M.A., 1931, Ph.D., 1934, Harvard. **C** An analysis of enterprise and "profits." **D** 11, 5, 10. **E** Business leadership in the large firm. **F** Business leadership in the large corporation (Brookings, 1942); "Ownership by management and control groups in the large corporation," Q.J.E., 1938; "Enterprise, profits, and the modern corporation," in Explorations in economics (Macmillan, 1936).

GORDON, Wendell Chaffee, 1113 Kenwood Ave., Houston, Tex. (1941) **A** T. **B** B.A., 1937, Rice Inst.; M.A., 1938, American; Ph.D., 1940, New York. **C** Expropriation of foreign owned property in Mexico (Amer. Coun. on Pub. Affairs, 1941). **D** 3, 8. **E** Economy of Latin America.

GORSKI, Roman von Sachsenberg, Butler Hall, 88 Morningside Dr., New York City. (1932) **A** Econ. invest. consultant, B. **B** M.S., Columbia; grad. work, Yale, Inst. of Int. Rela. **D** 8, 9, 2. **E** How news affects stock price movements. **F** "The Polish corridor—another Alsace Lorraine?" The Annals, July, 1934; The economic aspects of the Polish corridor (to be pub.); A realistic study on the problems facing the investments of college endowments (Amer. Asso. of Univ. Prof., 1941).

GOSS, Bert C., 152 W. 42nd St., New York City. (1941)

GOTT, Philip Porter, 224 S. Michigan Ave., Chicago, Ill. (1941)

GOTTSEGEN, Jack Jacob, 4103 W St., N.W., Washington, D.C. (1934) **A** Dept. of Labor, Bur. of Labor Statis., asso. ind. econ., R. **B** A.B., 1928, Amherst; M.B.A., 1930, Harvard; Ph.D., 1940, Columbia. **C** Tobacco—a study of its consumption in the United States (Pitman, 1940). **D** 19, 11, 16. **E** 1940-41 marketing margins on unmixed nitrogen fertilizer materials. **F** Chapters on tobacco and sugar, in Economic geography (by B. Ostrolenk) (R. D. Irwin, 1941); Price structure of trisodium and tetrasodium pyrophosphate (Bur. of Labor Statis., 1942).

GOUDRIAAN, Jan, Bachlaan 18, Hilversum, Holland. (1935)

GOULD, Eleanor R. (Mrs. Henry C. Murphy), 2300 41st St., N.W., Washington, D.C. (1938) **A** U. S. Dept. of Com., Bur. of For. and Dom. Com., Int. Econ. Unit, asst. econ., R. **B** B.B.A., 1931, M.A., 1933, Minnesota. **D** 8, 4, 12.

GOULD, Joseph Sidney, 623 Academy St., New-

ark, Del. (1930) **A BEW, British Empire Div., Supply and Resources Sec., chief, RA;** Univ. of Delaware, Dept. of Econ. and Bus. Admin., head, TRA. **B** A.B., 1921, M.A., 1922, Clark Univ., Worcester; Ph.D., 1929, Brookings. **C** Problem of overproduction in the petroleum industry. **D** 13, 20, 1. **F** "Recent changes in location and size of petroleum refineries," Univ. Jour. of Bus., 1928. **G** S.

GOURRICH, Paul P., 2939 E. 3rd St., Tucson, Ariz. (1940)

GOURVITCH, Alexander, 1878 Harrison Ave., New York City. (1926)

GOW, J. Steele, 1911 Farmers Bank Bldg., Pittsburgh, Pa. (1935) **A** Maurice and Laura Falk Found., RA. **B** A.B., 1916, LL.D., 1938, Pittsburgh; Ed.M., 1927, Harvard. **D** 11, 19, 3. **G** WE.

GRADY, (Mrs.) Eleanor Hunsdon, Hunter Col., 695 Park Ave., New York City. (1921) **A** Hunter Col., academic dean, TA. **B** A.B., 1908, Barnard; A.M., 1911, Ph.D., 1930, Columbia. **C** Epigraphic sources of the Delphic Amphictyony (privately pub.). **D** 1, 17, 3. **E** Most influential statement of each major economic concept. **G** S.

GRADY, Henry Francis, Amer. Pres. Lines, Ltd., 311 California St., San Francisco. Calif. (1927) **A** Amer. Pres. Lines, pres., A.B. **B** A.B., 1907, St. Mary's Univ., Baltimore; Ph.D., 1927, Columbia. **C** British war finance, 1914-19. **D** 8, 7, 10. **G** WSI.

GRAGG, Charles Insco, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1928)

GRAHAM, Benjamin, 52 Wall St., New York City. (1934) **A** Graham-Newman Corp., pres., B; Columbia Univ., School of Bus., lecturer in fin., TB. **B** B.S., 1914, Columbia. **D** 9, 5, 3. **E** Postwar stabilization of raw materials. **F** Security analysis (with D. L. Dodd) (rev. 1940), Storage and stability (1937), Interpretation of financial statements (1938) (Harper). **G** S.

GRAHAM, Frank Dunstone, 214 Western Way, Princeton, N.J. (1921) **A** Princeton Univ., prof., TR. **B** B.A., 1913, LL.B., 1915, Dalhousie; A.M., 1917, Ph.D., 1920, Harvard. **C** International trade under depreciated paper: the United States 1862-79 (part pub. in Q.J.E., 1922). **D** 7, 8, 3. **E** Theory of international trade and values. **F** Exchange, prices, and production in hyperinflation (Princeton Univ. Press, 1930); Protective tariffs (Harper, 1934); Social goals and economic institutions (Princeton Univ. Press, 1942). **G** WSE.

GRAHAM, T. Bertrand, Metropolitan Life Ins. Co., New York City. (1917)

GRAS, Norman Scott Brien, Harvard Univ., Soldiers Field, Boston, Mass. (1918) **A** Harvard Univ., Grad. School of Bus. Admin., prof. of bus. hist., TR. **B** A.B., A.M., 1906, Western Ontario; M.A., 1909, Ph.D., 1912, Harvard. **C** Evolution of the English corn market (Harvard Econ. Ser., 1915). **D** 2, 3. **F** Business and capitalism (Crofts, 1939). **G** WS.

GRAUE, Erwin, Univ. of Idaho, Moscow, Idaho. (1930) **A** Univ. of Idaho, prof. of econ., TR. **B** B.S., 1923, Ph.D., 1928, Cornell. **C** Agriculture vs. urban enterprise. **D** 1, 5, 3. **E** Invention, innovation, and production. **F** "Relationship of business activity to agriculture," J.P.E., 1930; "Forecasts of general price level," A.E.R., June, 1934; "Social cost of bad debt," Q.J.E., 1939. **G** S.

GRAY, Edith Scott, U.S. Children's Bur., Washington, D.C. (1912) **A** U. S. Children's Bur., A. **B** A.B., 1911, A.M., 1912, Oberlin. **D** 18, 19, 20. **F** Industrial accidents to employed minors (U. S. Children's Bur., 1926).

GRAY, Edward Rutherford, 3501 Williamsburg Lane, N.W., Washington, D.C. (1925) **A** Bur. of the Census, Div. of State and Local Gov., chief statis., RA. **B** 1916, Tusculum; 1921, Harvard; 1917, Yale. **C** Administration of the federal public debt since the World War. **D** 6, 10, 4. **E** State collection of local government data; methods for nation-wide reporting of information about local governments. **F** "Deficiencies in state and local government data," The Annals, Jan., 1940; "Government," in Statistical activities of the American nations (Inter-American Statis. Inst., 1941). **G** S.

GRAY, Horace Montgomery, Univ. of Illinois, Urbana, Ill. (1923) **A** Univ. of Illinois, Grad. School, asst. dean, prof. of econ. **B** B.S., 1922, M.S., 1923, Ph.D., 1926, Illinois. **C** Working capital requirements of public utility companies. **D** 10, 14, 11. **E** Critique of public utility regulation; problems in the public control of business. **F** "Competition as a basis for electric light and power rates," Jour. of Land and Pub. Util. Econ., Aug., 1929; "Allocation of joint costs in multiple purpose hydro-electric projects," A.E.R., June, 1935; "Passing of the public utility concept," Jour. of Land and Pub. Util. Econ., Feb., 1940. **G** S.

GRAY, John Henry, 1323 Jackson St., N.E., Washington, D.C. (1888) **A** Retired. **B** B.A., 1887, Harvard; Ph.D., 1892, Halle, Germany. **C** Die Stellung der Privaten Beleuchtung Gesellshaften zw. Stadt und Staat (1892). **D** 10, 14, 3. **F** Regulation and restriction of output in Great Britain (1902); Urban mortgages in the United States since 1920 (with G. W. Terborgh) (1929); Compilation and analysis of statutes relating to regulation of public service corporations (1913). **G** WSIE.

GRAY, Laurence R., Univ. of Arizona, Dept. of Econ., Tucson, Ariz. (1941)

GRAZIANI, A., Arco Mirelli, III, Izolato, Naples, Italy. (1927)

GREEF, Albert Otto, Univ. of Newark, Newark, N.J. (1924) **A U. S. Treas. Dept., For. Funds Control Div., head com. spec., R;** Univ. of Newark, prof. of fin., T. **B** A.B., 1921, Kansas; M.A., 1922, Ph.D., 1936, Harvard. **C** The commercial paper house in the United States (rev. ed. pub. by Harvard Univ. Press, 1938). **D** 7, 9, 5.

GREENBERG, Louis, 6317 Sligo Pkwy., Green Meadows, Md. (1941) **A WPB, asst. econ. statis. B** B.S.S., 1935, M.S. Ed., 1936, City of New York. **D** 11, 10, 19. **E** Production and distribution of aluminum.

GREENE, Catharine De Motte (Mrs. A. E.), 485 Grizzly Peak Blvd., Berkeley, Calif. (1928)

GREENWAY, J. Cole, 30 Vesey St., New York City. (1942) **A** Asso. of Amer. Railroads, regional dir., RB. **B** LL.B., 1924, St. Louis. **D** 14, 10, 6. **E** Competitive transportation.

GREGORY, Paul Michael, 2121 Burdett Ave., Troy, N.Y. (1940)

GREGORY, William Logan, 8704 Colesville Pike, Silver Spring, Md. (1934) **A BEW, prin. bus. anal., B;** Plaza Bank of St. Louis, vice-pres., cashier, and dir., B. **B** Diploma, 1937, Rutgers, Grad. of Banking. **D** 7, 10, 8.

GRESHAM, Harold Dean, U. S. Tariff Com., 7th and E Sts., N.W., Washington, D.C. (1932) **A** U. S. Tariff Com., sr. econ., RA. **B** A.B., 1930, Occidental; M.A., 1934, Princeton. **D** 8, 2.

GRETHER, Ewald Theophilus, Univ. of California, Berkeley, Calif. (1923) **A** Univ. of California, Col. of Com., dean, prof. of econ., TRA. **B** B.A., 1922, Nebraska; M.A., 1923, Ph.D., 1924, California. **C** The economics of John H. Hobson: a study in welfare economics. **D** 12, 1, 11. **E** Inter-regional trade, with special reference to the Pacific coast; branch plant location in Calif. **F** Price control under fair trade legislation (Oxford Press, 1939); Resale price maintenance in Great Britain (Univ. of California Press, 1935). **G** SE.

GRIFFENHAGEN, Edwin Oscar, 221 N. La Salle St., Chicago, Ill. (1912) **A** Griffenhagen and Asso., partner, RA. **B** B.S., 1906, C.E., 1909, Illinois Inst. of Tech. **D** 6. **G** WS.

GRIFFIN, Albert, Emory University, Ga. (1934) **A** Emory Univ., asst. prof. of bus. admin., T. **B** B.S., 1930, A.M., 1933, Pennsylvania. **D** 7, 8, 9. **E** Economic and financial consequences of the Fla. land boom of the 1920's.

GRIFFIN, Arthur Gwynn, Furman Univ., Greenville, S.C. (1927) **A** Furman Univ., dept. head, asso. prof., T. **B** A.B., 1921, A.M., 1923, North Carolina. **D** 6, 7, 18. **E** Economic implications of government program for old age, with particular emphasis on regional aspects.

GRIFFIN, Clare Elmer, Univ. of Michigan, School of Bus. Admin., Ann Arbor, Mich. (1920) **A** Univ. of Michigan, School of Bus. Admin., dean,

prof. of market.; Bur. of Bus. Res., dir., TRA. **B** A.B., 1914, Albion; M.A., 1915, Ph.D., 1918, Illinois. **C** History of the railroads of Illinois. **D** 11, 12, 8. **F** Principles of foreign trade (Macmillan, 1924); Life history of automobiles (Michigan Bus. Studies, 1926). **G** WSE.

GRIFFIN, John I., 115 Henry St., Brooklyn, N.Y. (1936) **A** Long Island Univ., instr. in econ. and statis.; Col. of City of New York, instr. in econ.; T. **B** A.B., 1934, A.M., 1935, Georgetown Univ.; Ph.D., 1939, Columbia. **C** Strikes, a study in quantitative economics (Columbia Univ. Press, 1939). **D** 4, 1, 17. **E** Textbook on econometrics; problems of the economy (to be pub.).

GRIGGS, Frederick David, 69 Leyfred Ter., Springfield, Mass. (1942) **A** Asso. of Gov. Bds. of State Univ. and Allied Inst., secy.-treas.; Springfield Taxpayers' Asso., exec. dir., A. **B** B.S., 1913, Massachusetts State Col. **D** 6, 10, 18.

GRIMES, Waldo Ernest, Kansas State Col., Manhattan, Kan. (1919) **A** Kansas State Col., TRA. **B** B.S., 1913, Kansas State Col.; Ph.D., 1923, Wisconsin. **C** Measures of farm income. **D** 15, 3, 16. **E** Agricultural economics. **G** WS.

GRISWOLD, A. Whitney, Yale Univ., Dept. of Gov. and Int. Rela., New Haven, Conn. (1941)

GRISWOLD, John Alfred, Univ. of Oklahoma, Norman, Okla. (1931) **A** Univ. of Oklahoma, asso. prof., T. **B** A.B., 1929, Millikin; A.M., 1930, Ph.D., 1936, Columbia. **C** A history of the Federal Reserve Bank of Chicago. **D** 7, 6, 2. **E** History of American financial institutions.

GRODEN, Gerald David, 17 Butler Ave., Buffalo, N.Y. (1940) **A** U. S. Treas. Dept., Bur. of Internal Revenue, deputy col. (audit), B. **B** B.A., 1939, Buffalo. **D** 4, 1, 7.

GRODINSKY, Julius, Univ. of Pennsylvania, 104 Hare Bldg., Philadelphia, Pa. (1941)

GROSS, Bertram M., 423 Cummings Lane, Chevy Chase, Md. (1941) **A U. S. Senate Small Bus. Com., res. dir., RA. B** B.A., 1933, M.A., 1935, Pennsylvania. **D** 16, 11, 10. **E** Small business problems; book on housing economics. **F** Economics of housing (U. S. Dept. of Agric., Grad. School, May, 1941); "What's happened to housing?" Harpers', Mar., 1939.

GROVE, Ernest Wilson, 3928 Benton St., N.W., Washington, D.C. (1940) **A U. S. Army, Services of Sup., Statis. Service, 2nd Lieut., A;** U. S. Dept. of Agric., Bur. of Agric. Econ., sr. statis., R. **B** A.B., 1932, California. **D** 19, 4, 15. **E** Evolution and economic significance of the concept of parity for agriculture (doctoral dissertation). **F** Soybeans in the United States (U. S. Dept. of Agric., 1938); Cost of hired farm labor, 1909-38 (U. S. Dept. of Agric., 1939); The concept of income parity for agriculture (Nat. Bur. of Econ. Res., 1942).

GROVES, Harold Martin, Univ. of Wisconsin, Dept. of Econ., Madison, Wis. (1926)

GRUCHY, Allan Garfield, Univ. of Maryland, Dept. of Econ., College Park, Md. (1937) **A** Univ. of Maryland, prof., TA. **B** B.A., 1926, British Columbia; M.A., 1929, McGill; Ph.D., 1932, Virginia. **C** Supervision and control of Virginia state banks (Appleton-Century, 1937). **D** 1, 7, 10. **E** Institutional economic thought in the U.S. **F** "John R. Commons' concept of twentieth century economics." J.P.E., Dec., 1940; "Economics of the National Resources Committee," A.E.R., Mar., 1939. **G** S.

GRUEN, Edward Dietrich, WPB, 3063 Soc. Sec. Bldg., Washington, D.C. (1941) **A** WPB, Requirements Com., Combined Raw Materials Bd., econ., R. **B** A.B., 1931, Dartmouth. **D** 10, 8, 11. **E** Supply-requirements studies of critical raw and industrial materials, particularly the ferro-alloying agents and the nonferrous metals, on national and United Nations basis; problems of allocations of critical metals under the WPB production requirements plan.

GRUENER, Jennette R., 65 Mt. Vernon St., Boston, Mass. (1932)

GRUNING, Charles Henry, Box 62, Mystic, Conn. (1927) **A** Durham-Enders Razor Corp., secy.-treas., RB. **D** 9, 4, 10.

GUEST, Harold Walter, Baldwin, Kan. (1922) **A** Baker Univ., prof. of econ. and bus. admin., T. **B** A.B., 1921, Albion; A.M., 1922, Illinois; Ph.D., 1926, Stanford. **C** A social-psychological interpretation of public expenditures (pub. as Public expenditure, Putnam, 1927). **D** 6, 7, 3. **F** "Classifications of public expenditures," A.E.R., Mar., 1930; "Public expenditure policies and trends," The Annals, Jan., 1936. **G** WS.

GUGGENHEIMER, Aimée, 27 E. 37th St., New York City. (1938) **A** Lifwynn Found., office secy. **B** A.B., 1896, Goucher; B.L.S., 1899, New York State Library School. **D** 17.

GUILD, Lawrence Ridge, 40 Hazel Dr., Pittsburgh (16), Pa. (1926) **A** Carnegie Inst. of Tech., T. **B** B.A., 1922, M.A., 1925, Ph.D., 1927, Yale. **C** Labor conditions in the larger villages of Ohio. **D** 17, 11, 12. **E** Industrial engineering in safety work. **F** Labor problems (with E. S. Furniss) (Houghton Mifflin, 1925); "Pittsburgh graded tax," Jour. of Land and Pub. Util. Econ., 1930.

GULICK, Charles Adams, Univ. of California, Dept. of Econ., Berkeley, Calif. (1923) **A** Univ. of California, prof., TR. **B** A.B., 1918, A.M., 1919, Texas; Ph.D., 1924, Columbia. **C** Labor policy of the United States Steel Corporation (Columbia Univ. Press, 1924). **D** 17, 10, 18. **E** Austrian labor and democracy, 1918-38. **F** Trust and corporation problems (with H. R. Seager) (Harper, 1929); "Some economic aspects of the N.I.R.A.," Columbia Law Rev., 1933; "How Fascism came to Austria," Univ. of Toronto Quar., 1939. **G** S.

GUMPERZ, Julian, Int. Inst. of Soc. Res., 429 W. 117th St., New York City. (1934) **A** Int. Inst. of Soc. Res., RB. **B** Ph.D., 1929, Univ. of Heidelberg. **C** The agricultural depression in the United States (Leipzig, 1930). **D** 9, 1, 8. **E** Relationship between changes in social structure and economic development with particular reference to postwar world.

GUNNARSON, Arthur Bernard, Chamber of Com. of the U.S., Washington, D.C. (1925) **A** Chamber of Com. of the U.S., Dom. Dist. Dept., mgr., RA. **B** A.B., 1920, Minnesota; M.B.A., 1924, Harvard. **D** 12, 3, 4. **G** S.

GUNSELMAN, Myrtle Annice, Kansas State Col., Manhattan, Kan. (1934) **A** Kansas State Col., asso. prof., TR. **B** B.S., 1919, Kansas State Col.; A.M., 1926, Chicago. **D** 19. **E** Farm incomes and living costs for certain Kan. families. **F** Co-author, Home management (Kansas State Col. Bul., 1941).

GUSHING, H. George, Associated Engineers, Inc., Ft. Wayne, Ind. (1941)

GUTHMANN, Harry George, Northwestern Univ., School of Com., Evanston, Ill. (1919) **A** Northwestern Univ., prof. of fin., T. **B** B.A., 1917, Syracuse; M.B.A., 1921, New York; Ph.D., 1929, Chicago; C.P.A., 1920. **C** The relation of maturity to yield differences among investment securities. **D** 9, 4, 7. **F** Analysis of financial statements (3rd ed., 1942), Corporate financial policy (with H. E. Dougall) (1940), Investment principles and practices (with R. E. Badger) (3rd ed., 1941) (Prentice-Hall). **G** WS.

GUTHRIE, John A., State Col. of Washington, School of Bus. Admin., Pullman, Wash. (1941)

GUTMANN, Franz, Box 955, Chapel Hill, N.C. (1939) **A** Univ. of North Carolina, lecturer in econ., TR. **B** D.Econ., 1904, Univ. of Strasbourg. **C** Die soziale Gliederung der Bayern zur Zeit des Volkrechtes (Trübner, Strasbourg, 1906). **D** 7, 5, 2. **E** Biography of G. F. Knapp; gold in the world economies after the first World War. **F** French currency system during the Franco-Prussian War (in German) (Strasbourg, 1913); Foreign debts of Germany (Jena, 1930); "Reparations," in Handwörterbuch der Staatswissenschaften.

GUTTENPLAN, Julius, 42-66 Phlox Pl., Flushing, N.Y. (1942)

GUYTON, Percy Love, Simpson Col., Indianola, Iowa. (1939) **A** Simpson Col., Dept. of Econ. and Bus. Admin., head, asso. prof., T. **B** B.S., 1927, Mississippi State Col.; M.B.A., 1932, Northwestern. **D** 2, 6, 1. **E** Federal government's role in relation to the American cotton problems (doctoral dissertation, Duke).

HAAS, Francis Joseph, Catholic Univ., Washington, D.C. (1940) **A** Catholic Univ., School of

Soc. Sci., dean. B Ph.D., 1922, Catholic; LL.D., 1934, Wisconsin. C Shop collective bargaining, a study of wage determination in the men's garment industry (1922). D 17, 3, 2. E Security, work, and relief policies (to be pub.). F Jobs, prices, and unions (Paulist Press, 1941). G WS.

HAAS, George C., U. S. Treas. Dept., Washington, D.C. (1936)

HABER, William, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1941)

HABERLER, Gottfried, Harvard Univ., Dept. of Econ., 326 Littauer Center, Cambridge, Mass. (1928) A Harvard Univ., prof., T. B Dr. rer. pol., 1923, Dr. jur., 1925, Univ. of Vienna. C Theories of foreign exchange. D 8, 1, 5. F The theory of international trade (English trans., Hodge, London, 1935); Prosperity and depression (League of Nations, 3rd ed., 1941); Consumer installment credit and economic fluctuations (Nat. Bur. of Econ. Res., 1942). G S.

HACKER, Emanuel A., Brookings Inst., 722 Jackson Pl., N.W., Washington, D.C. (1940)

HACKER, Louis Morton, Columbia Univ., New York City. (1934) A Columbia Univ., asst. prof., T. B A.B., 1922, M.A., 1923, Columbia. D 2, 10, 3. E Economic history of the U.S., 1865-97. F The farmer is doomed (John Day, 1933); "The first American revolution," Columbia Univ. Quar., Sept., 1935; The triumph of American capitalism (Simon and Schuster, 1940). G WSE.

HADLEY, Clausin Dennis, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1936) A Indiana Univ., asst. prof., TR. B B.S., 1928, Oregon; M.B.A., 1930, Stanford; Ph.D., 1937, Wisconsin. C Industrial changes in Wisconsin. D 4, 1. F Wage payment plans used by Oregon manufacturers (Univ. of Oregon, 1931). G S.

HAENSEL, Paul, 724 Simpson St., Evanston, Ill. (1931) A Northwestern Univ., prof. of econ., T. B B.Com., 1898, Acad. of Com., Moscow; M.A., 1907, LL.D., 1910, Moscow Univ.; Dr. oec. publ. honoris causa, 1926, Munich Univ., Germany. C Local taxation (in Russian) (St. Petersburg). D 6, 8, 3. E History of taxation; American problems of public finance; international currency. F Inheritance tax (Moscow, 1907); Bibliography of public finance (Moscow, 1908); Economic policy of Soviet Russia (London, 1930). G WS.

HAGEDORN, George G., 194-26 116th St., St. Albans, N.Y. (1940)

HAGEN, Everett Einar, 7015 Fordham Ct., College Park, Md. (1938) **A Nat. Res. Plan. Bd., asso. econ., R**; T. B B.A., 1927, St. Olaf; M.A., 1932, Ph.D., 1941, Wisconsin. C Capital accumulation and distribution of income. D 1, 5, 19. E Theoretical model for study of capital accumulation in a system with no fixed agents; Nat. Res. Plan. Bd. study of transition to peace after World War I. F This government of ours (Brownton Pub. Co., 1934).

HAHNE, Ernest Herman, 731 Monticello Pl., Evanston, Ill. (1912) A Northwestern Univ., prof. of econ., T. B A.B., 1911, LL.B., 1913, Nebraska; A.M., 1913, Harvard; Ph.D., 1929, Chicago. C Special assessments—with special reference to Chicago. D 6, 1, 7. E Federal budget and fiscal policy: the appropriating and estimating processes. F "Repercussions of federal finance," Proceedings, Nat. Tax. Asso., 1935; "Special assessments," in Soc. Sci. Ency., 1937; "Special assessments and licenses," The Annals, 1938. G WSE.

HAIG, Robert Murray, Columbia Univ., New York City. (1911) A Columbia Univ., McVickar prof. of polit. econ., TR. B A.B., 1908, LL.D., 1925, Ohio Wesleyan; M.A., 1909, Illinois; Ph.D., 1914, Columbia. C History of the general property tax in Illinois. D 6. E Concept of taxable income; federal-state financial relations. F "Taxation of excess profits in Great Britain," A.E.R., Mar. Sup., 1920; Financing of education in state of New York (with Strayer) (Macmillan, 1923); Major economic factors in metropolitan growth and arrangement (with McCrea) (N. Y. Reg. Plan, 1927). G WSIE.

HAINES, Charles Edward, 414 W. 13th St., Pueblo, Colo. (1937) **A U. S. Army Air Corps, pvt.**; Pueblo Junior Col., pres. B B.A., 1926, Univ. of Colorado; M.A., 1927, Columbia; Ph.D., 1937, Harvard. C Legal aspects of the federal antitrust laws. D 10, 6, 5.

HAINES, George Henry, 62 Hillcrest Circle, Grove City, Pa. (1938) A Grove City Col., asso. prof. of econ., T. B A.B., 1927, Ursinus; M.A., 1930, Clark. D 7, 17, 9.

HALAAS, Eugene T., Univ. of Denver, School of Com., Denver, Colo. (1935)

HALD, Earl C., 3956 Pennsylvania Ave., S.E., Apt. 1A, Washington, D.C. (1939)

HALE, E(dward) Everett, Univ. of Texas, Austin, Tex. (1927)

HALE, Robert Lee, Columbia Univ., New York City. (1911) A Columbia Univ., prof. of law, TR. B A.B., 1906, A.M., 1907, LL.B., 1909, Harvard; Ph.D., 1918, Columbia. C Valuation and rate-making: conflicting theories of Wisconsin Railroad Commission (Columbia Univ. Press). D 10, 14. E Role of law in our economy. F "Economic theory and the statesman," in Trend of economics (1924); "Our equivocal constitutional guaranties," Columbia Law Rev., 1939; "Commissions, rates, and policies," Harvard Law. Rev., 1940. G WS.

HALES, Charles Albert, 1123 16th St., Greeley, Colo. (1936) A Colorado State Col. of Educa., prof. of econ., T. B A.B., 1925, Randolph-Macon; Ph.D., 1938, Johns Hopkins. C The Baltimore clearing house (Johns Hopkins Press, 1940). D 7, 6, 19. E Savings and investments for people of limited means; resources of commercial banks.

HALEY, Bernard Francis, 638 Salvatierra St., Stanford University, Calif. (1926) **A OPA, asst. reg. price exec., A**; Stanford Univ., prof., T. B A.B., 1922, A.M., 1923, Stanford; A.M., 1926, Ph.D., 1933, Harvard. C A preliminary study of the laws of varying costs. D 1, 5, 6. G S.

HALEY, Robert Murkland, 3306 5th Ave., Beaver Falls, Pa. (1941) A Geneva Col., Dept. of Econ. and Bus. Admin., head, TA. B A.B., 1913, Harvard; M.S., 1926, Oregon State Col.; Ph.D., 1936, Northwestern. C The American electric railway interurban, an epoch in transportation development. D 1, 2, 14. G S.

HALL, Challis Alva, Jr., C-11 Lowell House, Harvard Univ., Cambridge, Mass. (1938) **A Harvard Univ., instr., TA.** B B.S., 1938, Kansas. D 6, 1, 14. E History and analysis of the theory of public credit (doctoral dissertation).

HALL, Franklin Porter, Miami Univ., Oxford, Ohio. (1940) A Miami Univ., asst. prof. of econ., T. B A.B., 1929, Oregon; A.M., 1931, Ph.D., 1942, Wisconsin. C The Indiana tax system and gross income taxation. D 1, 6, 2. E Tax burdens of industrial concerns, tax differentials of communities, and property tax assessments, Wis. F The home as a resource in parole treatment (Ind. Pub. Welfare Dept., Nov., 1940).

HALL, James Kendall, Univ. of Washington, Seattle, Wash. (1930) **A OPA, state price exec.**; Univ. of Washington, prof. of pub. util. and pub. fin., T. B A.B., 1925, A.M., 1926, Oregon; Ph.D., 1929, Stanford. C Telephone rates in theory and practice. D 6, 14, 5. F "Incidence of death duties," A.E.R., Mar., 1940; "Excise tax incidence and the postwar economy," A.E.R., Mar. Sup., 1942; A study of probated estates with reference to the Washington tax system (mono., Univ. of Washington Press, 1939). G S.

HALL, Ray Ovid, 905 23rd St., N.W., Washington, D.C. (1941) **A OPA, econ., R.** B M.A., 1914, Ph.D., 1922, Columbia. C History of Chinese central banks (1922). D 8, 5, 1. E Statistical typography. F International transactions of U.S. (Nat. Ind. Conf. Bd., 1936); "Relationships in balance of payments," A.E.R., Mar., 1941. G W.

HALL, Sherman Mortimer, 4 Irving Pl., New York City. (1941) A Consolidated Edison Co. of N.Y., div. engr., B. B B.S., 1927, Worcester Poly. Inst. D 14, 4, 5.

HALL, W(illiam) Scott, 103 Irving Rd., Lexington, Ky. (1929) A Transylvania Col., Dept. of Econ. and Soc., head, T. B A.B., 1927, Swarthmore, A.M., 1928, Pennsylvania; Ph.D., 1934, Johns Hopkins. C The Journeymen Barbers' Interna-

tional Union of America (Johns Hopkins Press, 1936). **D** 17, 10, 6. **F** Kentucky manufacturing (Ky. Dept. of Revenue, spec. report 4, 1941).

HALL, Willard Sebern, 819 Leland Ave., Chicago, Ill. (1929) **A** Illinois Col. of Com., instr., T. **B** B.S., 1927, Illinois. **D** 4, 2, 9.

HALLE, Hiram J., 50 W. 50th St., Room 5222, New York City. (1934)

HALLER, William, Jr., Shelburne, Vt. (1940) **A** Univ. of Vermont, instr., T. **B** B.A., 1936, Amherst; M.A., 1938, Columbia. **D** 2, 1, 19. **E** Formation of new towns in the New England colonies, 1620-89 (doctoral dissertation).

HALLEY, Donald MacDougall, 215-D Holden Green, Cambridge, Mass. (1925) **A Harvard Univ., Grad. School of Bus. Admin., spec. fellow, R;** Tulane Univ., prof., T. **B** A.B., 1923, Cornell; M.A., 1926, Northwestern. **D** 9, 10, 1. **G** S.

HALLOWELL, Burton Crosby, 68 Lawn Ave., Middletown, Conn. (1940) **A** Wesleyan Univ., instr., T. **B** B.A., 1936, M.A., 1938, Wesleyan Univ. **D** 5, 1, 8. **E** International propagation of business cycles (doctoral dissertation).

HALM, George Nikolaus, Tufts Col., Medford, Mass. (1937) **A** Tufts Col., asso. prof., T. **B** Dr. oec. publ., 1924, Univ. of Munich. **C** Das Zinsproblem am Geld- und Kapitalmarkt (in Jahrbücher für Nationalökonomie und Statistik, 1926). **D** 7, 3, 1. **F** Monetary theory (Blakiston, 1942); "Adequate calculation in a socialist community," in Collectivist economic planning (George Routledge and Son's, 1935).

HALVERSON, George Clarence, 35 Pomeroy St., Rochester, N.Y. (1942) **A** NLRB, field exam. **B** A.B., 1938, Antioch. **D** 17, 8, 18.

HAM, William Thomas, 5101 Chevy Chase Pkwy., N.W., Washington, D.C. (1925)

HAMILTON, Earl Jefferson, Box 4811, Duke Univ., Durham, N.C. (1929) **A** Duke Univ., prof. of econ., TR. **B** B.S., 1920, Mississippi State Col.; M.A., 1924, Texas; A.M., 1926, Ph.D., 1929, Harvard. **C** Money and prices and Andalusia. **D** 2, 7, 8. **E** Book on economic background of Monroe Doctrine; book on John Law's system: the first experiment with a managed currency. **F** American treasure and the price revolution in Spain, 1501-1650 (1934), Money, prices, and wages in Valencia, Aragon, and Navarre, 1351-1500 (1936), Money, prices, and wages in Spain, 1651-1800 (1942) (Harvard Univ. Press). **G** WS.

HAMILTON, Edward Parmalee, 440 4th Ave., New York City. (1924) **A** John Wiley and Sons, pres., A. **B** C.E., 1907, Rensselaer Poly. Inst.

HAMILTON, Frank A., Jr., 924 Grant Bldg., Pittsburgh, Pa. (1939)

HAMILTON, Roger Stanton, Northeastern Univ., Boston, Mass. (1935) **A** Northeastern Univ., Dept. of Econ., head, prof., T. **B** A.B., 1929, Pittsburgh; M.A., 1931, Tufts; Ph.D., 1940, Harvard. **C** Twenty-five years of workmen's compensation in Massachusetts. **D** 17, 1, 10. **E** Texts on understanding democracy and essence of economics.

HAMILTON, Thomas Rowan, Box 204, Faculty Exch., College Station, Texas. (1923) **A** Texas A. and M. Col., prof., T. **B** A.B., 1917, Washington and Lee; M.S., 1924, Ph.D., 1938, Columbia. **C** A statistical study of wool prices (Texas A. and M. Press, 1938). **D** 4, 1, 5.

HAMILTON, Walton Hale, Yale Univ., Law School, New Haven, Conn. (1916)

HAMMOND, Seth, 806 N. Coler Ave., Urbana, Ill. (1938) **A** Univ. of Illinois, instr., T. **B** B.A., 1935, Ohio State; Ph.D., 1941, Harvard. **C** The cotton industry of this century. **D** 2, 13, 11. **E** Economic history of U.S. cotton industry since 1860.

HANCOCK, Glover Dunn, Washington and Lee Univ., Lexington, Va. (1908)

HAND, George Henry, 267 N. Washington St., Delaware, Ohio. (1934) **A** Ohio Wesleyan Univ., asso. prof. of econ. and bus. admin., T. **B** A.B., 1928, West Virginia; M.A., 1933, Ph.D., 1939, Princeton. **C** Some economic effects of tax rate limitation in Ohio, 1910-35. **D** 6, 7, 1. **G** SE.

HANDSAKER, Morrison, Occidental Col., Los Angeles, Calif. (1938) **A** Occidental Col., Dept. of Econ., acting chmn., asso. prof., T. **B** A.B., 1929, Reed; Ph.D., 1939, Chicago. **C** The Chicago cleaning and dyeing industry, a case study in "controlled" competition (privately pub.) **D** 17, 18, 6. **F** "Monopolistic aspects of trade unionism," 1939, "Unemployment compensation in California," 1940, Proceedings, Pacific Coast Econ. Asso.; Prospective conditions in the California labor market in the postwar period," The Annals, July, 1942.

HANDY, Walter Ker, Jr., 4712 8th Rd. S., Arlington, Va. (1939) **A** U. S. Treas. Dept., asso. fiscal anal., B. **B** A.B., 1939, American. **D** 6, 7, 18.

HANEY, Lewis Henry, 90 Trinity Pl., New York City. (1906) **A** New York Univ., prof., TR, journalism. **B** B.A., 1903, M.A., 1904, Dartmouth; Ph.D., 1906, Wisconsin. **C** A congressional history of railways in the United States (Univ. of Wisconsin Bul.). **D** 1, 14, 5. **E** Business forecasting in the war economy; nature and significance of "price economics." **F** Value and distribution (Appleton-Century, 1939); History of economic thought (Macmillan, 3rd ed., 1936); Business organization and combination (Macmillan, 3rd ed., 1934). **G** WSI.

HANEY, Paul Edmond, 1000 Chandler Bldg., Washington, D.C. (1940) **A** Sheridan, Farwell and Morrison, econ., TB. **B** B.S., 1932, M.B.A., 1933, Northwestern. **D** 10, 9, 5. **E** Our changing economy.

HANNAY, Evan Bond, P.O. 82, Princeton, N.J. (1940) **A** Princeton Univ., instr. **B** A.B., 1936, Univ. of Washington; M.A., 1937, Stanford. **D** 7, 5, 8. **E** Role of the machine tool industry in the business cycle (doctoral dissertation).

HANSEN, Alvin Harvey, Harvard Univ., Grad. School of Pub. Admin., Cambridge, Mass. (1919) **A Fed. Res. Bd., spec. econ. adviser, R;** Harvard Univ., Littauer prof. of polit. econ., T. **B** B.A., 1910, LL.D., 1936, Yankton; M.A., 1915, Ph.D., 1918, Wisconsin. **C** Cycles of prosperity and depression. **D** 5, 6, 7. **F** Business cycle theory (Ginn, 1927); Principles of economic (with F. B. Garver) (Ginn, 1937); Fiscal policy and business cycles Norton, 1941). **G** WSE.

HANSON, Alice (Mrs. Homer Jones), 3067 Ordway St., N.W., Washington, D.C. (1925)

HANSON, Arthur Warren, 219 Morgan Hall, Soldiers Field, Boston, Mass. (1924) **A** Harvard Univ., Grad. School of Bus. Admin., prof., TR. **B** A.B., 1912, M.B.A., 1921, A.M., 1923, Harvard; LL.B., 1927, Litt.D., 1938, Suffolk Univ. **D** 4, 9, 11. **E** Clientele of public accounting firms over a period of years. **F** Problems in auditing (rev. 1935), Problems in accounting (with Hosmer and Sanders) (1934), Auditing: theory and its application (1942) (McGraw-Hill). **G** E.

HANSON, Simon Gabriel, 1020 19th St., N.W., Washington, D.C. (1939) **A** Dept. of State, Div. of Studies and Statis., asst. chief, R. **B** B.S., 1929, M.S., 1930, Vermont; A.M., 1933, Ph.D., 1938, Harvard. **C** History of the Argentine meat industry. **D** 8, 2, 6. **E** History of the Argentine railways; economic history of Argentina. **F** Utopia in Uruguay (Oxford Univ. Press, 1938); Argentine meat and the British market (Stanford Univ. Press, 1938); Introduction to business (Thomas Nelson and Sons, 1941).

HARALDSON, Wesley C., 1629 6th St., S.E., Minneapolis, Minn. (1942)

HARBESON, Robert Willis, Rutgers Univ., Dept. of Econ., New Brunswick, N.J. (1927) **A N.J. Rationing Admin., consulting econ., R;** Rutgers Univ., asst. prof., T. **B** A.B., 1925, Western Reserve; A.M., 1926, Ph.D., 1931 Harvard. **C** The North Atlantic port differentials. **D** 10, 14, 11. **E** Book on public regulation of business. **F** "The North Atlantic port differentials," Q.J.E., Aug., 1932; "Economic theory and railway rate regulation," in Explorations in economics (McGraw-Hill, 1936); "A new chapter in public utility regulation," Harvard Bus. Rev., Summer, 1942.

HARBISON, Frederick H., Presidential Gardens Apts., Alexandria, Va. (1939) **A WPB, prin. labor consultant, A;** Univ. of Chicago, asst. prof. of econ., TR. **B** A.B., 1934, M.A., 1938, Ph.D., 1940, Princeton. **C** Labor relations in the steel industry. **D** 17, 18, 10. **F** Seniority policies and procedures

as developed through collective bargaining (Princeton Ind. Rela. Sec., 1940).

HARDY, Charles Oscar, 722 Jackson Pl., N.W., Washington, D.C. (1919) **A Alien Property Custodian, econ. adviser, RA;** Brookings Inst. res. asso., R. **B** A.B., 1904, Ottawa Univ., Kan.; Ph.D. (Hist.), 1916, Chicago. **C** Negro question in the French Revolution (Banta Press, 1918). **D** 7, 5, 9. **E** Sales taxation, with particular reference to retail sales tax, federal. **F** Risk and risk bearing (Univ. of Chicago Press, 1923); Credit policies of the Federal Reserve System (Brookings, 1932); Wartime control of prices (Brookings, 1940). **G** WS.

HARDY, Edward Rochie, 80 John St., New York City. (1911)

HARING, H(arry) Albert, Indiana Univ., School of Bus., Bloomington, Ind. (1928)

HARLAN, Charles LeRoy, U. S. Dept. of Agric., Div. of Agric. Statis., Washington, D.C. (1920) **A** U. S. Dept. of Agric., prin. agric. statis., R. **B** Ph.B., 1898, Michigan. **D** 15, 4, 12. **F** Livestock on farms, 1867-1935, revised estimate (U. S. Dept. of Agric., 1937). **G** S.

HARRELL, Samuel Runnels, Room 205 Jordan Hall, 46th and Sunset Ave., Indianapolis, Ind. (1941)

***HARRIMAN, Edward Avery,** 1226 E. Foothill Blvd., Altadena, Calif. (1914) **A** Retired. **B** A.B., 1888, Harvard; LL.B., 1891, Boston Univ. **F** The Constitution at the crossroads (Doubleday, Doran, 1926). **G** WS.

HARRIMAN, John W., Amos Tuck School, Hanover, N.H. (1925)

HARRIS, Abram Lincoln, Howard Univ., Washington, D.C. (1934) **A** Howard Univ., dept. head, prof. **B** B.S., 1922, Virginia Union; M.A., 1924, Pittsburgh; Ph.D., 1931, Columbia. **C** Chapters contributed to The black worker (with Sterling D. Spero) (Columbia Univ. Press, 1931). **D** 1, 17. **E** Current significance of institutionalism—implications of the theories of Marx, Veblen, Sombart and Commons. **F** "Types of institutionalism," J.P.E., Dec., 1932; "Economic evolution: Darwinian and dialectical," J.P.E., Feb., 1934; "Pure capitalism and disappearance of middle class," J.P.E., June, 1939. **G** WS.

HARRIS, H. B., Leesburg, Va. (1937)

HARRIS, Seymour Edwin, Littauer Center, Cambridge, Mass. (1926) **A OPA, Office of export price control, chmn., RA;** Harvard Univ., asso. prof., TR. **B** A.B., 1920, Ph.D., 1926, Harvard. **C** The assignats (Harvard Univ. Press, 1929). **D** 10, 7, 8. **E** International monetary issues; editor, postwar economic problems, economics of America at war. **F** Exchange depreciation (Harvard Univ. Press, 1936); Twenty years of Federal Reserve (Harvard Univ. Press, 1933); Economics of American defense (Norton, 1941). **G** S.

HARRIS, W. Carlton, Univ. of Pennsylvania, Logan Hall, Philadelphia, Pa. (1925) **A** Univ. of Pennsylvania, prof. of fin., T. **B** LL.B., 1913, Ph.D., 1930, Pennsylvania. **C** The influence of parks in the city of Philadelphia on frontage values of abutting residential properties. **D** 16, 7. **F** Banking theory and practice (McGraw-Hill, rev., 1936).

HARRISON, David Moody, Ohio State Univ., Dept. of Econ., Columbus, Ohio. (1941) **A OPA, Iron and Steel Br., sr. econ.;** Ohio State Univ., instr., T. **B** B.S., 1929, Ursinus; M.A., 1932, Ph.D., 1940, Duke. **C** A survey of English population doctrine—1800-60. **D** 20, 2, 1.

HARRISON, George M., 701 Brotherhood Bldg., Cincinnati, Ohio. (1942)

§**HARRISON, Shelby Millard,** 130 E. 22nd St., New York City. (1933) **A** Russell Sage Found., gen. dir., A. **B** A.B., 1906, LL.D., 1932, Northwestern. **D** 16, 17, 18. **F** Public employment offices (joint author), Disproportion of taxation in Pittsburgh, Attacking on social work's three fronts (Russell Sage Found.). **G** WSE.

HARRISS, C(lement) Lowell, 2480 16th St., N.W., Washington, D.C. (1937) **A U. S. Treas. Dept., Div. of Tax. Res., R;** Columbia Univ., instr., T. **B** B.S., 1934, Harvard; Ph.D., 1940, Columbia. **C** Gift taxation in the United States (Amer. Coun. on Pub. Affairs, 1940). **D** 6, 1, 2. **E** Tax research in U. S. Treasury; progressive taxation of expenditures. **F** "Philanthropy and federal taxation," J.P.E., 1939; "Gifts in contemplation of death," Taxes, 1941.

HART, Albert Gailord, Iowa State Col., Dept. of Econ., Ames, Iowa. (1936) **A** Iowa State Col., prof. of econ., TR. **B** B.A., 1930, Harvard; Ph.D., 1936, Chicago. **C** Anticipations, business planning, and the cycle (mono., Univ. of Chicago Press, 1940). **D** 1, 6, 19. **E** Epitome of American national income; war finance. **F** Debts and recovery (Twentieth Cent. Fund, 1938); Paying for defense (with E. D. Allen and others) (Blakiston, 1941). **G** S.

HART, Donald John, 2514 Chamberlain, Ames, Iowa. (1942) **A** Iowa State Col., bus. secy., A. **B** B.A., 1938, Lake Forest; M.A., 1941, Wisconsin. **D** 8, 1, 9.

HART, Lawrence, 2335 Valentine Ave., New York City. (1940) **A U. S. Treas. Dept., econ. anal.,** R. **B** B.S., 1940, New York. **D** 1, 4, 6.

HART, Maurice I., 40 Kensington Ter., Maplewood, N.J. (1939) **A** Fordham Univ., asso. prof., T. **B** B.A., 1926, M.A., 1927, Boston Col.; Ph.D., 1930, Fordham. **D** 7, 11, 8. **G** S.

HART, Nancy (Mrs. H. D. Baker), 30 Seaman Ave., Apt. BB, New York City. (1941) **A U. S. Civ. Serv. Com., Dist. Office, trainee rating exam., A. B** A.B., 1934, Bryn Mawr; M.A., 1937, Wisconsin. **D** 10, 6, 17.

HART, Orson Henry, Connecticut Bldg., Beverly Park Gardens, Alexandria, Va. (1937) **A OPA, bus. econ., A;** Phoenix Mut. Life Ins. Co., security anal., B. **B** A.B., 1935, Trinity Col. **D** 9, 7, 11. **E** Life insurance investments (doctoral dissertation).

HART, W(illiam) Lee, 105 E. French Pl., San Antonio, Tex. (1928) **A** Hq., 8th Corps Area, Fort Sam Houston, Tex., col., med. corps, corps area surgeon, A. **B** M.D., 1906, Maryland. **D** 2, 16, 20. **E** Economic factors of national defense. **G** W.

HARTKEMEIER, Harry Pelle, 114 Bus. and Pub. Admin. Bldg., Univ. of Missouri, Columbia, Mo. (1942) **A** Univ. of Missouri, prof. of bus. statis., T. **B** B.S., 1927, Louisville; M.A., 1928, Harvard; Ph.D., 1930, Chicago. **C** The effect of price and weather on the production of potatoes and corn (pub. as The supply function for agricultural commodities, Univ. of Missouri Studies, 1932). **D** 4, 11, 5. **E** Sampling procedures in the control of production; analysis of variance applied to sales management. **F** Principles of punch-card machine operation (Crowell, 1942); Distribution of higher-order interactions (Univ. of Chicago Press, 1942); "Shifts of demand and supply curves," Econometrica, Oct., 1935. **G** S.

HARTLEY, Eugene Fuller, 590 Madison Ave., New York City. (1941)

HARTMAN, Gerhard, 18 E. Division St., Chicago, Ill. (1941)

HARVILL, Richard Anderson, Univ. of Arizona, Dept. of Econ., Tucson, Ariz. (1933) **A** Univ. of Arizona, asso. prof., T. **B** B.S., 1926, Mississippi State Col.; M.A., 1927, Duke; Ph.D., 1932, Northwestern. **C** Some economic and legal aspects of public utility merchandising. **D** 1, 5, 8. **F** "The economy of the South," J.P.E., Feb., 1940; "Public utility merchandising," Jour. of Land and Pub. Util. Econ., Feb., Aug., 1932, May, 1936. **G** S.

HASBROUCK, Henry Crane, 61 Broadway, New York City. (1911) **A** Atlantic Util. Serv. Corp., consulting accountant, B. **B** A.B., 1904, Cornell. **D** 4, 14, 18. **F** "When should depreciation be deducted to find the rate making value of public utilities," Cornell Law Quar., June, 1925; "Utility rate regulation—corporate financial statements," Proceedings, Acctg. Inst. (Columbia Univ.), 1940; "The problem of accounting for depreciation," Pub. Util. Fortnightly, Oct. 23, 1941.

HASEK, Carl William, 502 E. Foster Ave., State College, Pa. (1922) **A** Pennsylvania State Col., prof. of econ., TA. **B** B.A., 1911, Lehigh; M.A., 1914, Harvard; Ph.D., 1925, Columbia. **C** Adam Smith's doctrines in Germany (Columbia Univ. Press, 1925). **D** 1, 5, 8. **E** Industrial trends in Pa. **F** Principles of economics (Prentice-Hall, 1938). **G** SE.

HASSE, Adelaide Rosalie, 806 Islington St., Silver Spring, Md. (1914) **A SEC, editorial anal., R. D** 1, 8, 16. **E** History of cartels; analytical digest TNEC hearings and monographs. **F** Index economic material in documents of states of United States (18 vols., Carnegie Inst.); Index of foreign affairs of United States, 1828-68 in documents of United States (Carnegie Inst.). **G** W.
HASTINGS, Hudson Bridge, 6 Everit St., New Haven, Conn. (1920)
HATCH, George, KLO, Ogden, Utah. (1941)
HATCH, Leonard Williams, 425 Pelham Manor Rd., Pelham Manor, N.Y. (1901) **A** Retired. **B** A.B., 1892, Oberlin; A.M., 1893, Wisconsin; Ph.D., 1905, Columbia. **C** Goverment industrial arbitration. **D** 17, 3.
HATFIELD, George W., "Heathfield," New Canaan, Conn. (1937)
***HATHAWAY, Frank Randel,** 142 Green St., Hudson, N.Y. (1888)
HATHCOCK, James Sheffner, 3293 Worthington St., N.W., Washington, D.C. (1940) **A** U. S. Civ. Serv. Com., prin. econ., A. **B** B.S., 1919, North Carolina State Col.; M.S.A., 1923, Ph.D., 1927, Cornell. **C** Costs and practices of cotton gin operation in north central Texas. **D** 10, 12, 19.
HATTON, William James, Office of the Dist. Attorney, Las Vegas, Nev. (1942) **A** Clark Co., deputy dist. attorney, B. **B** B.A., 1939, Nevada. **D** 17, 1, 10.
HAUHART, William Frederic, Southern Methodist Univ., Dallas, Tex. (1920) **A** Southern Methodist Univ., School of Bus. Admin., dean, prof. of fin., A. **B** A.B., 1901, A.M., 1902, Missouri; Ph.D., 1909, Columbia. **D** 7, 8, 6. **G** WS.
HAVENS, R. Murray, 81 Beech St., Berea, Ohio. (1938) **A** Baldwin-Wallace Col., asst. prof., T. **B** A.B., 1927, Baker; M.B.A.. 1933, Kansas; Ph.D., 1941, Duke. **C** Laissez faire in the United States during nineteenth century depressions. **D** 2, 7, 1. **E** Early history of the independent treasury. **F** "Laissez faire theory in presidential messages of the nineteenth century," Jour. of Econ. Hist., Dec., 1941; "Reactions of the federal government to the 1837-43 depression," S.E.J., Jan., 1942.
HAWES, Harry B., 711 Transportation Bldg., Washington, D.C. (1934)
HAWK, Emory Quinter, Birmingham-Southern Col., Birmingham, Ala. (1941) **A U. S. Bur. of Labor Statis., spec. consultant, R;** Birmingham-Southern Col., Dept. of Econ., head, TR. **B** A.B., 1913, Bridgewater; Cert., 1919, Univ. of Toulouse, France; A.M., 1926, Ph.D., 1928, Virginia. **C** History of taxation in Virginia. **D** 17, 1, 6. **E** Postwar demobilization. **F** Economic history of the South (Prentice-Hall, 1934); Taxation in Alabama (Birmingham-Southern Col., 1930); "Economics of chain stores." Proceedings, Southern Econ. Asso., 1931. **G** SE.
HAWKINS, Everett Day, 4614 Beechwood Rd., College Park, Md. (1930) **A OPA, Other Rubber Prod. Sec., chief;** Mount Holyoke Col., asso. prof., T. **B** A.B., 1930, Oberlin; A.M., 1933, Ph.D., 1934, Princeton. **C** Voluntary and compulsory plans for dismissal compensation (pub. as Dismissal compensation, Princeton Univ. Press, 1940). **D** 18, 17, 10. **E** Social insurance in war and peace. **F** Dismissal compensation in a war economy (S.R.R.C., 1942).
HAWKINSON, James R., Northwestern Univ., School of Com., Evanston, Ill. (1927) **A U. S. Civ. Serv. Com., chief recruitment spec.;** Northwestern Univ., prof. of market. **B** A.B., 1917, Carleton; M.B.A., 1929, Northwestern. **D** 12, 19. **G** S.
HAWORTH, Clifford L., Butler Bros., St. Louis, Mo. (1929). **A** Butler Bros., asst. br. controller, B. **B** A.B., 1926, Whittier; M.B.A., 1928, Harvard. **D** 4, 12, 5.
HAYDEN, Byron R., 1301 S. Cleveland St., Apt. 353, Arlington, Va. (1942) **A** Fed. Pub. Hous. Auth., asst. statis., A. **B** A.B., 1942, George Washington. **D** 16, 10, 19.
HAYES, H(arry) Gordon, Ohio State Univ., Columbus, Ohio. (1915) **A** Ohio State Univ., prof., TR. **B** A.B., 1910, M.A., 1912, Ph.D., 1914, Michigan **C** The backward shifting of land taxes. **D** 5, 3, 1. **E** Book on no more depressions. **F** Our economic system (Holt, 2 vols., 1928); The general economic situation and the university (Ohio State Univ., pamphlet, 1942). **G** WSE.
HAYES, James Louis, St. Bonaventure Col., St. Bonaventure, N.Y. (1941) **A** St. Bonaventure Col., prof. of fin., TA. **B** B.A., 1936, St. Bernard's; M.A., 1938, St. Bonaventure. **D** 6, 11, 12.
HAYES, Marion, 1712 16th St., N.W., Washington, D.C. (1939)
HAYES, Samuel Perkins, Jr., 318 E. Thornapple St., Chevy Chase, Md. (1938) **A OPA, prin. econ., R;** Young and Rubicam, econ. and statis., B. **B** A.B., 1931, Amherst; Ph.D., 1934, Yale; S.S.R.C. post-doctoral res. train. fellowship, 1937-38, Chicago. **C** Voters' attitudes toward men and issues (Jour. of Soc. Psych., 1936-39). **D** 12, 11, 5. **E** Psychological aspects of investment decisions. **F** "Potash prices and competition," Q.J.E., 1942; "Psychology of conciliation and arbitration procedures," in Industrial conflict, ed. by G. W. Hartmann and T. Newcomb (Cordon Co., 1939). **G** E.
HAYFORD, F. Leslie, Gen. Motors Corp., 1775 Broadway, New York City. (1919)
HAYMAN, Henry Houston, 8030 St. Martins Lane, Philadelphia, Pa. (1934)
HAYNES, Lawrence Wilber, R.R. 3, Box 295, Kokomo, Ind. (1942) **A** Bur. of Agric. Econ., Div. of Program Surveys, jr. soc. sci. anal., R. **B** B.S. Agric., 1936, Purdue; grad. work, 1940-41, Wisconsin. **D** 15, 1, 17. **E** Agricultural labor in Wis.
HAYNES, (Nathan Gallup) Williams, 161 Water St., Stonington, Conn. (1924) **A** Haynes and George Co., pres., RA. **D** 11, 12, 2. **E** Applied chemical economics; commercial development new products, marketing; chemical consultant to financial institutions. **F** Chemical economics (Van Nostrand, 1933); Men, money, and molecules (Doubleday, Doran, 1936); This chemical age (Knopf, 1942). **G** W.
HEALY, Kent Tenney, Yale Univ., New Haven, Conn. (1932) **A Dept. of Interior, Bituminous Coal Div., transp. consultant;** Yale Univ., asso. prof., T. **B** A.B., 1922, Harvard; B.S., 1923, M.I.T. **D** 14, 11. **F** Electrification of steam railroads (McGraw-Hill, 1929); Economics of transportation in America (Ronald Press, 1940). **G** W.
HEANEY, Norman Stewart, 3706 Calloway Ave., Baltimore, Md. (1942) **A U. S. Naval Reserve, lieut. (j.g.), A. B** B.S., 1934, Ph.D., 1942, Johns Hopkins. **C** Public trusteeship (Johns Hopkins Press, 1942). **D** 1, 3, 16.
HEATH, Milton Sydney, Univ. of North Carolina, Chapel Hill, N.C. (1940) **A** Univ. of North Carolina, prof., T. **B** A.B., 1920, Kansas; A.M., 1924, Ph.D., 1937, Harvard. **C** Public co-operation in railroad construction in the southern United States to 1861. **D** 1, 2, 11. **E** Role of government in economic development of Georgia; structure of southern industry. **F** "Optimum regional production," Soc. Forces, Oct., 1934. **G** S.
HEATHERINGTON, Donald Fuller, Richmond, Vt. (1938) **A Westbrook Junior Col., instr., T. B** B.S. in Com., 1937, Washington and Lee; M.A., 1939, Yale. **D** 8, 6, 7.
HEATON, Herbert, Univ. of Minnesota, Dept. of Hist., Minneapolis, Minn. (1926) **A** Univ. of Minnesota, prof. of econ. hist., T. **B** M.A., 1912, D.Litt., 1921, Leeds Univ.; M.Com., 1914, Birmingham Univ. **C** History of the Yorkshire woolen and worsted industries up to the Industrial Revolution (Oxford Univ. Press, 1920). **D** 2, 8. **E** Anglo-American trade, 1770-1850. **F** The British way to recovery (Univ. of Minnesota Press, 1934); Economic history of Europe (Harper, 1936). **G** WS.
HECK, Chester Reed, American Book Co., 88 Lexington Ave., New York City. (1928) **A** Amer. Book Co., Col. Div., dir., A.
HECK, Victor C., American Legation, San José, Costa Rica. (1938)
‡**HECKSCHER, Eli Filip,** Baldersgatan 10A, Stockholm ö, Sweden. (1938)
HEDGES, J(oseph) Edward, Indiana Univ., School of Bus., Bloomington, Ind. (1932) **A** Indiana Univ., asso. prof. of ins., acting dir., Personnel and

Place. Bur., TRA. **B** A.B., 1928, Baker; M.B.A., 1932, Kansas; Ph.D., 1936, Johns Hopkins; C.L.U., 1938, Amer. Col. of Life Underwriters. **C** Commercial banking and the stock market before 1863 (Johns Hopkins Univ. Press, 1938). **D** 9, 18, 16. **E** Training of life insurance agents; texts on practical fire and casualty insurance and principles of insurance. **F** The compensation of life insurance agents (Indiana Univ., School of Bus., 1942); contributor, Economics of war (Wiley, 1942); Real property survey of Marietta, Ga. (WPA of Ga., 1940).

HEDGES, Marion Hawthorne, 1200 15th St., N.W., Washington, D.C. (1942) **A** Int. Brotherhood of Elec. Workers, dir. of res., R. **B** A.B., 1910, DePauw; A.M., 1912, Harvard. **D** 17, 19, 2. **F** Strikeless industry (John Day Co.); "Mechanic," in Ency. of Soc. Sci. **G** WS.

HEEBNER, R(onald) Gilbert, Scott Paper Co., Chester, Pa. (1941) **A** Scott Paper Co., tax mgr., B. **B** B.S. in Ed., 1933, M.S. in Ed., 1935, Temple. **D** 6, 5, 1.

HEER, Clarence, Univ. of North Carolina, Chapel Hill, N.C. (1934).

HEFLEBOWER, Richard Brooks, State Col. of Washington, School of Bus. Admin., Pullman, Wash. (1934) **A** State Col. of Washington, School of Bus. Admin., dean, TA. **B** A.B., 1925, Ph.D., 1929, California. **C** Price forming factors for some of the staple agricultural articles produced in Idaho. **D** 5, 1, 11. **E** Taxation and private investment; government lending agencies and enterprise; labor costs and prices. **F** Economics with applications to agriculture (McGraw-Hill, 2nd ed., 1940); "The effect of dynamic forces on the elasticity of revenue curves," Q.J.E., Aug., 1941; "Economics of security," Proceedings, Pacific Coast Econ. Asso., 1939. **G** WS.

HEIBY, Ernest Paul, 1217 Delafield Pl., N.W., Washington, D.C. (1941) **A U. S. Civ. Service Com., asso. civ. service exam. in econ.;** Ohio State Univ., asst. in rural econ. exten. **B** B.S. in Agric., 1934, M.S., 1938, Ohio State; grad. work, 1938-39, Chicago. **D** 15, 8, 1. **F** Contributor, Timely economic information for Ohio farmers (Ohio State Univ., Agric. Ext. Service, 1934-41).

HEILPERIN, Michael Angelo, Hamilton Col., Clinton, N.Y. (1934) **A** Hamilton Col., asso. prof., T. **B** Licence, 1929, Doctorat ès-Sciences Economiques, 1931, Univ. of Geneva. **C** Le problème monétaire d'après-guerre et sa solution en Pologne, en Autriche et en Tchécoslovaquie (Récueil Sirey, Paris, 1931). **D** 8, 5, 7. **E** Book on economic nationalism; principles of economic policy for a democratic society. **F** International monetary economics (Longmans, 1939); International monetary organization (League of Nations and Columbia Univ. Press, 1939); Monnaie, crédit et transfert (Récueil Sirey, 1932). **G** S.

HEIMANN, Eugene Alfred, 1506 S. 10th St., Waco, Tex. (1934) **A** Baylor Univ., asso. prof., T. **B** B.A., 1929, M.A., 1930, Texas; Ph.D., 1933, Virginia. **C** Judicial interpretation of federal antitrust legislation. **D** 10, 15, 2. **E** Principles of agricultural economics. **G** S.

HEINEMANN, Hans, Kidder, Peabody and Co., 17 Wall St., New York City. (1941)

HEISS, Charles Augustus, Pottersville, N.J. (1913) **A** Amer. Tel. and Tel. Co., comptroller, B. **B** B.A., 1908, George Washington; M.A. (Hon.), 1928, Michigan; LL.D., 1937, Upsala Col. **D** 14, 9, 18.

HELBING, Albert Theodore, 4623 Clybourn Ave., North Hollywood, Calif. (1930) **A** Lockheed Aircraft Corp., Vega Aircraft Corp., asst. dir. of educa. **B** Ph.B., 1923, Denison; Ph.D., 1929, Johns Hopkins. **C** The departments of the American Federation of Labor (Johns Hopkins Press, 1931). **D** 17, 10, 3. **E** Labor relations in aircraft industry. **F** "Occupational disease legislation in Illinois," Jour. of Soc. Studies (Univ. of Chicago), Mar., 1938.

HELD, Felix Emil, Ohio State Univ., Col. of Com. and Admin., Columbus, Ohio. (1922)

HELFANT, Henry, Casilla 9582, Santiago de Chile, Chile, So. Amer. (1941)

HELLBORN, Ludwig S., U. S. Treas. Dept., Div. of Tax Res., Washington, D.C. (1939) **A** U. S. Treas. Dept., sr. econ., R. **B** B.A., 1927, Univ. of Berlin. **D** 9, 6, 4. **E** Corporation taxation and its incidence. **F** Statistics of American listed corporations, parts 1 and 2 (SEC, 1941, 1942).

HELLEBRANDT, Edwin Theodore, Box 228, Athens, Ohio. (1929) **A** Ohio Univ., asso. prof., T. **B** B.S., 1926, Chicago; M.S., 1927, Ph.D., 1933, Wisconsin. **C** The development of public utility commission regulation in Ohio (Jour. of Land and Pub. Util. Econ., Nov., 1933-Feb., 1934). **D** 14, 9, 2. **E** Economic development of the U. S.; analytic study of Ohio Pub. Util. Com. **F** "Regulation of public utility holding companies in Ohio," Harvard Bus. Rev., Summer, 1937. **G** S.

HELLER, Walter W., U. S. Treas. Dept., Room 22, Washington, D.C. (1941) **A U. S. Treas., Div. of Tax Res., econ. anal., R. B** B.A., 1935, Oberlin; M.A., 1938, Ph.D., 1941, Wisconsin. **C** State income tax administration. **D** 6, 14, 1. **E** State income tax data on income; use of presumption in income taxation. **F** "Collection methods appropriate to the wartime use of income taxes," in Financing the war (Tax Inst., 1942); "The administration of state death taxes" (with C. Lowell Harriss), Ia. Law Rev., Mar., 1941.

HELLMAN, Richard, Fed. Power Com., Washington, D.C. (1941) **A** Fed. Power Com., econ., asst. to chmn., R. **B** A.B., 1934, Columbia. **D** 14, 10, 19. **E** Government competition with private enterprise. **F** Family income in nine cities of the East Central Region, 1935-36 (U. S. Bur. of Labor Statis., 1939); "Money and banking in Russia," Harpers Mag., Dec., 1936; "TVA and the utilities," Harpers Mag., Jan., 1939.

HELLMUTH, William Frederick, Jr., 3713 Ingomar St., N.W., Washington, D.C. (1941) **A U. S. Army, 2nd Lieut., F.A. B** A.B., 1940, Yale. **D** 14, 4, 10.

HELM, Florence, 1725 New Hampshire Ave., N.W., Washington, D.C. (1930) **A** FDIC, sr. econ., R. **B** A.B., B.S. Ed., 1909, M.A. 1930, Missouri; Ph.D., 1934, Yale. **C** Country banking in Missouri, 1920-32 (Mo. Bankers Asso., 1939). **D** 7, 9, 11. **E** Federal insurance of bank deposits; receiverships and mergers of insured banks; federal credit unions. **F** Banking developments in Missouri, 1920-36 (Mo. Bankers Asso., 1939).

HELMREICH, Theodore Christian, 4307 McPherson Ave., St. Louis, Mo. (1936) **A** St. Louis Univ., asst. prof., T. **B** A.B., A.M., 1932, Ph.D., 1936, Illinois. **C** The unemployment program of the German government, 1930-34. **D** 2, 8, 10. **E** Regimentation of labor in Germany.

HELMS, Lloyd Alvin, Bowling Green State Univ., Bowling Green, Ohio. (1927) **A** Bowling Green State Univ., Dept. of Econ., chmn., asso. prof., TRA. **B** A.B., 1925, DePauw; A.M., 1926, Ph.D., 1931, Illinois. **C** The contributions of Lord Overstone to the theory of currency and banking (Univ. of Illinois Press). **D** 1, 17, 14. **G** S.

HEMMEON, Joseph Clarence, McGill Univ., Montreal, Canada. (1909) **A** McGill Univ., Dept. of Econ. and Polit. Sci., chmn., TR. **B** A.M., 1904, Ph.D., 1906, Harvard. **C** History of the British post office (Harvard Univ. Press, 1914). **D** 1, 5, 6. **E** War finance in Canada. **F** British North American provinces (Harvard Univ. Press, 1934); The Canadian Railway Worker (Oxford Press, 1936). **G** S.

HENCH, William Martin, Temple Univ., School of Com., Philadelphia, Pa. (1932)

HENDERSON, Leon, 2121 Bancroft Pl., Washington, D.C. (1935) **A** OPA, admin. **B** A.B., 1920, Swarthmore. **D** 10, 11, 3. **G** WS.

HENDERSON, L(ucien) Gerdine, 15 E. 26th St., New York City. (1919) **A** Ronald Press Co., vice-pres., B. **B** C.E., 1909, Texas. **D** 11, 12, 4.

HENEMAN, Herbert G., Jr., 2130 W. Como Ave., St. Paul, Minn. (1941) **A Univ. of Minnesota, res. asso., R. D** 17. **E** Monthly sampling survey of St. Paul, Minn., labor market: measuring and analyzing employment, unemployment, and related conditions.

HENGREN, Raymond E., 6605 Exfair Rd., Bethesda, Md. (1935)

HENIG, Harry, Univ. of Cincinnati, Cincinnati, Ohio. (1934)

HENRY, Robert James, 430 S. Lombard, Oak Park, Ill. (1929) **A** White, Bower and Prevo, C.P.A.'s, Chicago office, resident mgr., B. **B** B.A., 1929, City of Detroit; M.A., 1930, Michigan; C.P.A., 1939, Michigan. **D** 4, 9, 6.

HERBERT, Charles Henry, Sun Life Assurance Co. of Canada, Montreal, Canada. (1937) **A Wartime Prices and Trade Bd., Information Br., officer**; Sun Life Assurance Co., invest. econ., B. **B** B.Com., 1927, McGill. **D** 5, 6, 10. **F** "A loan council for Canada," Canadian Jour. of Econ. and Polit. Sci., Aug., 1936; "Interest rates in peace and war," Canadian Banker, July, 1939; Why war savings? (Ryerson Press, Toronto, 1940).

HERBST, Alma, Ohio State Univ., Columbus, Ohio. (1924)

HERMENS, Ferdinand Aloys, 1721 Stocker Pl., South Bend, Ind. (1938) **A** Univ. of Notre Dame, asso. prof. **B** Diplomvolkswirt, 1928, Ph.D., 1930, Univ. of Bonn. **C** Demokratie und Kapitalismus, eine Versuch zur Soziologie der Staatsformen (Munich, 1931). **D** 5, 7, 1. **E** Democratic society and capitalistic economy. **F** Der Staat und die Weltwirtschaftskrise (Vienna, 1936). **G** S.

HERRING, James Morton, Univ. of Pennsylvania, 311 Logan Hall, Philadelphia, Pa. (1941)

HERRMANN, Helen, 1614 34th St., N.W., Washington, D.C. (1928) **A War Ship. Admin., labor econ., admin. asst., RA. B** A.B., 1926, Bryn Mawr; M.A., 1929, Columbia. **D** 17. **F** Machinists: ten years of work experience of Philadelphia machinists (WPA, 1938).

HERROLD, Lloyd Dallas, 2210 Hartzell St., Evanston, Ill. (1938) **A** Northwestern Univ., prof. of advertising, T. **B** B.A., 1919, Wisconsin; M.B.A., 1925, Northwestern. **D** 12. **F** Advertising for the retailer (D. Appleton, 1923); Advertising copy (1926), Real estate advertising (1931) (McGraw-Hill). **G** S.

HERSEY, M(ilton) Leonard, 205 6th St., Cambridge, Mass. (1939) **A** Socony Vacuum Oil Co., sales res. mgr., RB. **B** B.S., 1922, Trinity (Conn.). **D** 12, 4, 5. **E** Dealer and consumer sampling; industrial forecasting (multiple correlation); evaluation of advertising. **F** "Marketing analysis as a function of management," Jour. of Market. Teachers, 1936; "The elements of a system of marketing control," Jour. of Market., 1938.

HERTRAIS, Wesson S., Dept. of Com., U. S. Court House, 225 S. Clark St., Chicago, Ill. (1941)

HERZ, Henry, 739 Boulevard E, Weehawken, N.J. (1941) **A** State of N. J., Bd. of Pub. Util. Com., asst. to econ., RA. **B** B.S., 1936, M.B.A., 1939, New York. **D** 14, 4, 1. **E** Utility finance and taxation.

HERZ, Homer, 1119 Wells Ave., Reno, Nev. (1940)

HERZOG, Arthur L., Chicago City Bank and Trust Co., 815 W. 63rd St., Chicago, Ill. (1941) **A** Chicago City Bank and Trust Co., econ. statis., B. **D** 4, 5, 7.

HESKIN, Oscar Edward, Univ. Sta., Gainesville, Fla. (1939) **A** Univ. of Florida, asso. prof., T. **B** B.A., 1922, Luther Col.; M.A., 1927, Ph.D., 1937, Minnesota. **C** Economic aspects of the history of banking in North Dakota. **D** 1, 12, 7. **E** Interdependent aspects of marketing and production costs.

HESS, Herbert William, Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1940)

HESSION, Charles H., 1714 Hendrickson St., Brooklyn, N.Y. (1940) **A** Brooklyn Col., Dept. of Econ., instr., TR. **B** B.A., 1932, City of New York; M.A., 1933, Columbia. **D** 11, 2, 5. **E** Market control in the American metal container industry (doctoral dissertation). **F** Readings in economic institutions (with C. Stoddart, et al.) (Brooklyn Col. Press, 1941); Business problems (with E. H. Spengler) (McGraw-Hill, rev. 1939); Problems in economics (with W. H. Steiner, E. Bowen) (Holt, 1934).

HEWES, Amy, Mount Holyoke Col., South Hadley, Mass. (1906)

HEXNER, Ervin Paul, Chapel Hill, N.C. (1940) **A** Univ. of North Carolina, asso. prof., T. **B** Dr. pol. sc., 1918, State Univ. Kolozsvar, Hungary; Dr. juris, 1919, State Univ. Bratislava, Czechoslovakia. **D** 11, 8. **E** Book on international steel cartel. **F** Studies in legal terminology (Univ. of North Carolina Press, 1941); "American participation in the international steel cartel," S.E.J., July, 1941; Grundlagen des tschechoslovakischen Kartellrechtes (Carl Heymann, Berlin, 1929).

HIATT, Amos, 15 Edgemont Ave., Summit, N.J. (1940) **A** Pan Amer. Airways, asst. comptroller, B; Col. of City of New York, lecturer in manage., T. **B** B.B.A., 1923, Univ. of Washington. **D** 4, 8, 11.

HIBBARD, Benjamin Horace, Col. of Agric., Madison, Wis. (1908)

HIBBS, James R., Univ. of Illinois, 415 Commerce Bldg., Urbana, Ill. (1940) **A** Univ. of Illinois, instr., T. **B** A.B., 1929, Ph.D., 1941, Pennsylvania. **C** Chapters in the relations of Venezuela and the United States, 1865-89. **D** 8, 1, 2. **E** Latin American and U. S. economic foreign policy. **F** "United States trade with Latin America," Opinion and Comment, Feb. 24, 1942.

HICKMAN, C. Addison, 802 E. Washington, Iowa City, Iowa. (1941) **A** State Univ. of Iowa, asst. prof., T. **B** B.A., 1937, M.A., 1938, Ph.D., 1942, Iowa. **C** Economic implications and repercussions of possible development of strategic materials sources in the Western Hemisphere. **D** 8, 2, 1. **E** Principles of postwar economics; Pan American economics (to be pub. by Wiley, late 1942).

HICKMAN, W(alter) Braddock, 364 Nassau St., Princeton, N.J. (1940)

HICKS, Clifford Milton, Univ. of Nebraska, Lincoln, Neb. (1934) **A** Univ. of Nebraska, asso. prof., T. **B** A.B., 1924, LL.B., 1925, A.M., 1927, Nebraska. **D** 9, 14, 10. **E** Government influence in formation of capital; changes in capital structures of business. **F** An introduction to business (Farrar and Rinehart, 1938); Problems in corporation finance (Graves Print. Co., Lincoln, rev. 1941); "Rights of noncumulative preferred stock," Temple Law Quar., 1936.

HICKS, William Trotter, U. S. Dept. of Agric., Bur. of Agric. Econ., Clemson, S.C. (1935) **A** Bur. of Agric. Econ., sr. econ., RA. **B** B.S., 1927, M.S., 1928, Florida; Ph.D., 1935, Northwestern. **C** Economic effects of the nationalization of foreign property in Mexico (Northwestern Univ.). **D** 15, 12, 3.

HIDY, Muriel Emmie (Mrs. R. W.), Box 203, Norton, Mass. (1932) **A** Wheaton Col., asst. prof. of econ., T. **B** A.B., 1927, British Columbia; M.A., 1928, Clark; Ph.D., 1939, Radcliffe. **C** George Peabody, merchant and financier, 1829-54. **D** 2, 8, 6. **E** Anglo-American merchant banking, 1775-1860. **G** S.

HIGDON, Earl Terril, 513 Ballinger Bldg., St. Joseph, Mo. (1941) **A** Reorg. Church of Jesus Christ of Latter Day Saints, Bishop of Far West Stake, A. **B** B.S.C., 1929, Iowa; M.A., 1937, Northwestern. **D** 15, 19, 1.

*__HIJAKATA, S.__, 47 Ichibancho, Kojimachi-ku, Tokyo, Japan. (1921)

HILDEBRAND, George H., Jr., Univ. of Texas, 304 Garrison Hall, Austin, Tex. (1939)

HILKEN, Henry Gerhard, 5513 Glenbrook Rd., Bethesda, Md. (1941) **A** Alien Property Custodian, sr. econ. **B** A.B., 1931, M.A., 1933, Princeton. **D** 11, 1, 10. **E** Price and output policies in zinc and lead industries (doctoral dissertation, Chicago).

HILL, Daniel A., 1633 Compton Rd., Cleveland Heights, Ohio. (1931) **A** Ohio Pub. Serv. Co., Alliance Pub. Serv. Co., B; Fenn Col., T. **B** A.B., 1929, Cleveland Col.; M.B.A., 1936, Western Reserve. **D** 14, 11, 5.

HILL, George Bradbury, 616 N. Lucerne Blvd., Los Angeles, Calif. (1923) **A** R. **B** B.S.A., 1908, Wisconsin; M.A., 1920, Columbia. **D** 1, 19, 9. **E** Changes in consumption related to changes in national income.

HILL, James Christian, 505 Tennessee Ave., Alexandria, Va. (1940) **A BEW, econ., R. B** B.A.,

1935, Swarthmore. **D** 17, 2, 3. **E** Organization of agricultural labor (doctoral dissertation); cotton field labor; trends toward wage labor; problems of organization.

HILLHOUSE, Albert Miller, Univ. of Cincinnati, 20 Hanna Hall, Cincinnati, Ohio. (1941) **A** Univ. of Cincinnati, asso. prof. of pub. admin., T. **B** A.B., 1924, Davidson; J.D., 1930, New York; M.A., 1931, North Carolina; Ph.D., 1938, Northwestern. **C** Municipal bonds—a century of experience (Prentice-Hall, 1936). **D** 6, 10, 4. **E** Acquisition and management of tax-reverted properties; use of statistics in public administration. **F** Tax limits appraised (with Ronald B. Welch) (Pub. Admin. Serv., 1937); Local government debt administration (with Carl H. Chatters) (Prentice-Hall, 1939). **G** S.

HIMADEH, Sa'id Behmed, American Univ., Beirut, Lebanon. (1928)

HIMMELBLAU, David, 339 E. Chicago Ave., Chicago, Ill. (1914) **A** Northwestern Univ., Dept. of Acctg., chmn., prof., T; David Himmelblau and Co., auditors, sr. partner, B. **B** B.A., 1909, Iowa; B.B.A., 1914, Northwestern; C.P.A., 1913, Illinois. **D** 4. **F** Investigations for financing (Ronald Press, 1938); "Annuity theory of depreciation," Proceedings, Int. Cong. on Acctg., 1929; editor, Complete accounting course (Ronald Press, rev. 1942). **G** SE.

HINES, Lawrence Gregory, Univ. of Minnesota, Vincent Hall, Minneapolis, Minn. (1942) **A** Univ. of Minnesota, T. **B** A.B., 1938, Kansas; M.A., 1942, Minnesota. **D** 17, 1, 10. **E** Measurement of the demand for labor in an urban community.

HINMAN, Albert Greene, Principia Col., Elsah, Ill. (1934) **A** Principia Col., prof. of econ., T. **B** B.J., 1917, Missouri; M.A., 1924, Wisconsin; Ph.D., 1931, Northwestern. **C** Population growth and its demands upon land for housing (Evanston News-Index). **D** 1, 16, 12. **F** Real estate merchandising (A. W. Shaw, McGraw-Hill, 1926); Urban land economics (Macmillan, 1928). **G** S.

HINRICHS, Albert Ford, U. S. Dept. of Labor, Bur. of Labor Statis., Washington, D.C. (1935) **A** U. S. Bur. of Labor Statis., asst. com., **acting com.** **B** A.B., 1921, A.M., 1922, Ph.D., 1923, Columbia. **C** United Mine Workers of America and the nonunion coal field, 1923. **D** 17, 10, 3. **F** The printing industry in New York City (1923); National economic planning (with L. Lorwin) (Nat. Res. Plan. Bd., 1935); Wages in cotton goods manufacturing (U. S. Bur. of Labor Statis., 1938). **G** WS.

HINSHAW, Randall Weston, 4547 Lowell St., N.W., Washington, D.C. (1940) **A Dept. of Com., Amer. Republics Unit., econ., spec. in Central Amer., R;** T. **B** A.B., 1937, M.A., 1939, Occidental. **D** 1, 5, 7. **E** Articles on economic importance of Argentina and wage-employment theory; wage-employment theory (doctoral dissertation, Princeton). **F** "Rising costs and business cycle crisis," A.E.R., Dec., 1938.

HITCH, Thomas Kemper, 2311 N. 9th St., Arlington, Va. (1942) **A** Dept. of Com., Bur. of For. and Dom. Com., asso. econ., R. **B** A.B., 1934, Stanford; Ph.D., 1937, London School of Econ. **C** The question of personnel in a socialized industry. **D** 6, 3, 7.

HJELMSTAD, J. H., 416 S. 7th St., Moorhead, Minn. (1934)

HOADLEY, Walter Evans, Jr., Univ. of California, Bur. of Bus. and Econ. Res., South Hall, Berkeley, Calif. (1942) **A Univ. of California E.S.M.D.T., ind. manage. super., TA; Bur. of Bus. and Econ. Res., res. asst, R;** Scripps Col., instr. in econ., T. **B** A.B., 1938, M.A., 1940, California. **D** 11, 10, 17. **E** Pacific Coast petroleum industry (doctoral dissertation, California). **F** Industrial survey of San Francisco Bay area (with R. D. Calkins) (Calif. State Plan. Bd., 1942); Re-employment: report of Governor's Commission on Re-employment (Calif. State Print. Office, 1939).

HOAG, Pierre, Eastman Kodak Co., Kodak Pk., Rochester, N.Y. (1940)

HOAGLAND, Henry E., 2448 Southway Dr., Columbus, Ohio. (1910) **A** Ohio State Univ., prof. of bus. fin., T. **B** A.B., M.A., 1910, Illinois; Ph.D., 1917, Columbia. **C** Collective bargaining in the lithographic industry (Columbia Univ. Press). **D** 9, 16, 10. **E** Real estate finance. **F** Corporation finance (McGraw-Hill, rev. 1938); Real estate principles (McGraw-Hill, 1940). **G** WS.

HOBSON, Asher, Univ. of Wisconsin, Col. of Agric., Madison, Wis. (1920) **A** Univ. of Wisconsin, prof., TR. **B** B.A., 1913, Kansas; M.A., 1915, Wisconsin; Dr. Pol. Sc., 1931, Univ. of Geneva. **C** The International Institute of Agriculture. **D** 15, 8, 12. **E** National agricultural policies. **G** WSE.

HOCHWALD, Werner, Washington Univ., Dept. of Econ., St. Louis, Mo. (1942) **A** Washington Univ., asst., T. **B** B.S.B.A., 1940, A.M., 1942, Washington Univ. **D** 1, 10, 17. **E** Labor demand and institutional change (doctoral dissertation).

HODDE, Ferdinand Henry, 3115 Bellewood Ave., Cincinnati, Ohio. (1933)

HODGES, John R., Arkansas A. and M. Col., Monticello, Ark. (1938) **A** Arkansas A. and M. Col., prof. of econ. and soc., T. **B** B.A., 1929, M.A., 1933, Ph.D., 1937, Texas. **C** An historical and critical analysis of the capital concept. **D** 1, 2, 11. **G** S.

HODGES, Julian Adair, Kansas State Col., Dept. of Econ. and Soc., Manhattan, Kan. (1928) **A** Kansas State Col., prof. of agric. econ., TR. **B** B.S. in Agric., 1917, M.S. in Agric., 1923, Kentucky; A.M., Ph.D., 1938, Harvard. **C** The principle of comparative advantage applied to farm organization as found in type-of-farming areas in Kansas (summary, Harvard Univ. Press, 1940). **D** 15, 4, 16. **E** Factors affecting the organization and operation of Kan. farms. **F** Types of farming in Kansas (with Elliott and Grimes) (Kan. Agric. Exp. Sta. Bul. 251, Aug., 1930); "Size of farm and the business cycle," Jour. of Farm Econ., Oct., 1934; "Forty years of farm management research," Jour. of Farm Econ., May, 1942.

HODGKINS, Alton Ross, Damariscotta Mills, Me. (1926)

HOFFMAN, George Wright, Univ. of Pennsylvania, Logan Hall, Philadelphia, Pa. (1920) **A** Univ. of Pennsylvania, prof. of ins. and market., TR. **B** A.B., 1919, Park; Ph.D., 1925, Pennsylvania. **C** Hedging by dealing in grain futures (privately pub.). **D** 9, 12, 4. **E** An introduction to economic research. **F** Future trading upon organized commodity markets (Univ. of Pennsylvania Press, 1932); co-author, The security markets (Twentieth Cent. Fund, 1935).

HOFSTAD, Arnold Fletcher, 1830 Sherman Ave., Evanston, Ill. (1942) **A Evanston Collegiate Inst., instr. T; Northwestern Univ., Dept. of Acctg., asst., student.** **B** B.S.C., 1941, Northwestern. **D** 6, 4, 5. **E** Federal excess profits tax (master's thesis).

HOHMAN, Elmo Paul, 625 Haven St., Evanston, Ill. (1936) **A OPA, Chicago Office, price exec., A;** Northwestern Univ., prof. of econ., TR. **B** A.B., 1916, M.A., 1917, Illinois; M.A., 1920, Ph.D., 1925, Harvard. **C** The American whaleman: a study of labor conditions in the whaling industry (Longmans, Green, 1928). **D** 17, 18, 11. **E** International maritime labor; labor problems in the Mercantile Marine. **F** "Maritime labor in the United States," Int. Labour Rev., Aug. and Sept., 1938; "The International labor organization and the seaman (Geneva Special Studies, brochure, 1937).

HOISINGTON, Frederick Reed, 3812 Kanawha St., N.W., Washington, D.C. (1935) **A War Dept., Office of Chief of Ordnance, prin. ind. spec., A;** Elda Corp., vice-pres., A. **B** B.S., 1919, Trinity Col. **D** 10, 8, 11. **F** Cost of consumer credit (Twentieth Cent. Fund, 1939); Economic briefs—mercury, tungsten, and beryllium industries (OPA, 1941-42).

HOLBEN, Ralph Erdman, 233 B St., N.E., Washington, D.C. (1942)

HOLDEN, Grenville Ross, Room 1704, Tempo. D, 4th and Independence Ave., Washington, D.C. (1940)

HOLDER, Frederick Charles, 17 Regent Ave., Lockport, N.Y. (1939) **A** Harrison Radiator Div., General Motors Corp., employ. mgr., B. **B** B.S., 1934, M.A., 1938, Buffalo. **D** 17, 4, 1.

HOLLADAY, James, Univ. of Alabama, University, Ala. (1929) **A** Univ. of Alabama, prof. of econ., TRA. **B** B.S., 1915, Georgetown Col.; M.S., 1923, Illinois; Ph.D., 1927, Iowa. **C** Canadian

banking system (Bankers Pub. Co., Cambridge, 1938). D 7, 8, 9. E Commercial banking under present conditions. G SE.

HOLLANDER, (Mrs.) Leona Rosen, 1615 Kenyon St., N.W., Washington, D.C. (1942)

HOLLEY, Julian L., 1318 L St., N.W., Washington, D.C. (1940)

HOLLOWAY, Charles W., 202 N. Piedmont St., Arlington, Va. (1941) **A U. S. Dept. of Labor, Bur. of Labor Statis., ind. econ.; George Washington Univ., teaching asst.; TA. B** B.S., 1936, California; M.A., 1940, George Washington. **D** 11, 10, 17. **E** Characteristics of prices of industrial equipment (doctoral dissertation). **F** Economics of the hide glue industry (U. S. Dept. of Labor, Nov., 1941).

HOLLOWELL, Walter Maxwell, 2388 Albion St., Denver, Colo. (1939) **A U. S. Army, Military Police, sgt., P. M. Office, accountant-statis., AB. B** B.A., B.S., 1935, Univ. of Colorado; M.B.A., 1939, Northwestern. D 9, 6, 4.

HOLM, Edwin Emanuel, Jr., R.R. 1, Lynnhaven, Va. (1941)

HOLMES, Floyd C., 4121 W St., N.W., Washington, D.C. (1934)

HOLMES, Frederick Bausman, 501st C. A., Camp Haan, Riverside, Calif. (1937) **A U. S. Army, 1st lieut.;** Calif. Dept. of Employ., jr. statis., R. **B** A.B., 1936, California. **D** 4, 17, 18.

HOLMES, Robert S., 2151 California St., N.W., Washington, D.C. (1941)

HOLTHAUSEN, Duncan M., 4101 3rd Rd., N., Buckingham Community, Arlington, Va. (1939)

HOMAN, Paul Thomas, 722 Jackson Pl., N.W., Washington, D.C. (1925) **A WPB, econ. adviser, R;** Cornell Univ., prof. of econ., T. **B** A.B., 1914, Willamette; A.B., 1919, Oxford; Ph.D., 1926, Brookings. **C** Contemporary economic thought (Harper, 1928). **D** 1, 10, 6. **F** Co-author, The national recovery administration (Brookings, 1935); The sugar economy of Puerto Rico (Columbia Univ. Press, 1938). **G** WSE.

HOMBERGER, Ludwig Maximilian, American Univ., 1901 F St., N.W., Washington, D.C. (1939) **A** American Univ., asso. prof., TR. **B** Dr. jur. et rer. pol., 1906, Univ. of Würzburg. **C** Das Recht der entstehenden Aktiengesellschaft (J. Schweizer, München, 1906). **D** 14, 10. **E** Transportation and war. **F** "Wirtschaftsführung und Finanzen der deutschen Reichsbahn," 1934, "Wirtschaftsführung und Finanzen bei amerikanischen Eisenbahnen," 1929, "Wirtschaftsführung und Finanzen bei englischen Eisenbahnen," 1928, Verkehrswissenschaftliche Lehrmittelgesellschaft, Berlin. **G** S.

HON, Ralph Clifford, Box 4964, Duke Sta., Durham, N.C. (1928) **A Duke Univ., visiting prof., T;** Southwestern, prof., T. **B** A.B., 1924, Illinois; A.M., 1927, Harvard; Ph.D., 1930, North Carolina. **C** Railway efficiency since 1920. **D** 9, 7, 6. **F** "The South in a war economy," S.E.J., Jan., 1942; "The Memphis power and light deal," S.E.J., Jan., 1940. **G** S.

HONG, Everette Nels, Univ. of Southern California, Univ. Park, Los Angeles, Calif. (1940) **A** Univ. of Southern California, Dept. of Econ., T. **B** B.A., 1935, Univ. of Washington. **D** 3, 4, 11. **E** Accounting principles in relation to economic theory.

HONNOLD, Junia H., Hotel Woodmere, 4641 S. Woodlawn Ave., Chicago, Ill. (1930)

HOOD, Robin, 2005 I St., N.W., Washington, D.C. (1937)

HOOS, Sidney Samuels, Commodity Credit Corp., Washington, D.C. (1939) **A** Commodity Credit Corp., U. S. Dept. of Agric., sr. econ., RA. **B** A.B., 1934, A.M., 1935, Michigan; Ph.D., 1939, Stanford. **C** Price relations between December and March wheat futures at Liverpool (rev., with Holbrook Working, in Wheat Studies, Food Res. Inst., Nov., 1938, and Nov., 1940). **D** 12, 4, 15. **E** Economic and statistical analysis of related demands, with special reference to methods of analysis; application of futures trading to perishable commodities. **F** "An investigation on complementarity relations between fresh fruits," Jour. of Farm Econ., May, 1941; "Futures trading in perishable agricultural commodities," Jour. of Market., Apr., 1942.

HOOVER, Calvin Bryce, Duke Univ., Durham, N.C. (1925) **A Co-ordinator of Information, member, Bd. of Anal.;** Duke Univ., Grad. School, dean, prof. of econ., TRA. **B** A.B. 1922, Lit.D., 1935, Monmouth; Ph.D., 1925, Wisconsin; Lit.D., 1934, Columbia. **C** Capital and contract in Genoa in the twelfth and thirteenth centuries. **D** 1, 3, 4. **E** Theory of capital formation. **F** Economic life of Soviet Russia (Macmillan, 1931); Germany enters the Third Reich (Macmillan, 1933); Dictators and democracies (Macmillan, 1937). **G** WSIE.

HOOVER, Edgar Malone, Jr., 30 W. Washington St., Kensington, Md. (1933) **A OPA, Fuel Rationing Br., Res. Sec., chief, R;** Univ. of Michigan, asso. prof. of econ., T. **B** A.B., 1928, Ph.D., 1932, Harvard. **C** Location of the shoe industry in the United States (pub. as Location theory and the shoe and leather industries, Harvard Univ. Press, 1937). **D** 16, 4, 10. **E** Petroleum products rationing. **F** Economic aspects of the St. Lawrence power project (U. S. Dept. of Com., 1941); Introducción a la economía geográfica (Fondo de Cultura Económica, Mexico City, in press). **G** S.

HOOVER, Glenn Edwin, Mills College P.O., Calif. (1925) **A** Mills Col., asso. prof., TR. **B** LL.B., 1912, M.A., 1922, Univ. of Washington; Docteur en Droit (Science Politique et Economique), 1924, Strasbourg. **C** La Stabilisation due Franc (Libraire Istra, Strasbourg, 1924). **D** 6, 7, 8. **F** "The economic effects of inheritance taxes," A.E.R., Mar., 1927; "Our Mexican immigrants," Foreign Affairs, Oct., 1929. **G** S.

HOPE, John, II, Atlanta Univ., Atlanta, Ga. (1938) **A** Atlanta Univ., Book Shop mgr., purch. agent, instr. in econ., TA. **B** A.B., 1930, Morehouse; A.M., 1932, Brown. **D** 19, 18, 1.

HOPF, Harry Arthur, Hopf. Inst. of Manage., Windrose Farm, R.R., Ossining, N.Y. (1940) **A** Windrose Farm, manage. engr. **B** B.C.S., 1906, M.C.S., 1914, M.B.A., 1922, New York; D.Eng. (Hon), 1942, Rensselaer Poly. Inst. **D** 11, 17, 9. **E** Relation between size and accomplishment in business as revealed by analysis of the operations of life insurance companies (doctoral dissertation); effect of noise upon the productivity of factory workers. **F** "The present status, responsibilities and future of the management engineer," Proceedings, Soc. of Ind. Engrs., 1933; "Management and the optimum," Proceedings, Int. Com. of Sci. Manage., 1935; "Business management and the scientific point of view," Engr. Jour. of Canada, 1937. **G** W.

HOPKINS, Francis Washburn, New Jersey Col. for Women, New Brunswick, N.J. (1927) **A** New Jersey Col. for Women, Dept. of Econ. and Soc., head, asso. prof., T. **B** A.B., 1918, Ph.D., 1930, Yale; LL.B., 1925, Fordham. **C** An historical sketch of local finance in Connecticut until 1930, with special reference to forest resources, forest industries, and the taxation of forest (Edwards Bros., 1936). **D** 10, 6, 8. **E** Social aspects of business. **F** "Investment operations of universities," Jour. of Bus. (Univ. of Chicago), Apr., 1932. **G** S.

HOPKINS, John Abel, Jr., Iowa State Col., Ames, Iowa. (1922)

HOPKINS, Louis Jay, 1385 Hillcrest Ave., Pasadena, Calif. (1911)

HOPKINS, William Stephen, Dept. of Econ., Stanford University, Calif. (1934) **A** Stanford Univ., asso. prof., T. **B** B.S., 1925, M.A., 1928, Oregon; Ph.D., 1932, Stanford. **C** The development of the concept of profit in American economic theory. **D** 17, 18, 3. **E** Labor market and standards. **F** "Employment exchanges for seamen," A.E.R., June, 1935; Seasonal unemployment (Univ. of Washington Press, 1936); Social insurance and agriculture (Com. on Soc. Sec., 1940). **G** S.

HORAK, Jacob, 1445 Spring Rd., N.W., Washington, D.C. (1929) **A U. S. Treas. Dept., prin. com. spec., RA;** T. **B** Ph.B., 1916, Ph.D., 1920, Chicago. **C** Assimilation of Czechs in Chicago. **D** 8, 7, 20. **E** Economic warfare with special reference to financial measures, controls, and policies. **F** Foreign benefit societies in Chicago (Report of Ill.

State Health Ins. Com., 1919); "Effects of the World War on emigration from Czechoslovakia," Soc. Serv. Rev., 1928; Admission of aliens to the United States and naturalization (in Czech) (2nd ed., 1931). **G** S.

HORNE, Gilbert Richard, 333 Patricia Rd., Windsor, Ont., Canada. (1933) **A** Assumption Col., prof., T. **B** B.A., 1931, Western Ontario; M.A., 1936, Michigan. **D** 4, 7, 9. **F** "Labor and social services in Quebec," Canadian Jour. of Econ. and Polit. Sci., May, 1941; "Investment analysis of C.P.R.," Quar. Rev. of Com. (Univ. of Western Ontario), 1936. **G** S.

HORNE, Roman Lemuel, TVA, Knoxville, Tenn. (1935) **A** TVA, chief reports ed. **B** B.A., 1928, M.A., 1931, Ph.D., 1936, Ohio State. **C** Ricardo's contribution to monetary theory. **D** 8, 7, 6. **F** Farm business (Univ. of Chicago Press, 1938); Money (with Marc Rose) (Univ. of Chicago Press, 1939); The mechanical cotton picker (with Eugene G. McKibben) (WPA, 1937). **G** S.

HORNER, Robert Ray, R.R. 4, Holland, Mich. (1929) **A** Manistee Iron Works Co., dir., supervisor of priorities, B. **B** A.B., 1926, M.A., 1927, Michigan. **D** 10, 11, 17.

HORNER, Seward L., Gen. Motors Corp., 1775 Broadway, New York City. (1923)

HOROWITZ, Daniel L., 51 Frost St., Cambridge, Mass. (1942)

HORTON, Donald Clare, U. S. Dept. of Agric., Bur. of Agric. Econ., Washington, D.C. (1926) **A** Bur. of Agric. Econ., sr. econ. **B** B.S., 1926, M.A., 1927, Ohio State; Ph.D., 1933, Michigan. **C** The theory of public control of commercial banking. **D** 7, 6, 15. **E** Federal agricultural credit policy in wartime. **F** Long-term debts in the United States (U. S. Dept. of Com., 1936); sr. author, Farm mortgage credit facilities in the United States (U. S. Dept. of Agric., 1942). **G** S.

HOSMER, Windsor Arnold, 211 Morgan Hall, Soldiers Field, Boston, Mass. (1929) **A** Harvard Univ., prof., TR. **B** A.B., 1918, M.B.A., 1921, Harvard. **D** 4, 11, 9. **E** Cases on financial accounting. **F** Problems in accounting (McGraw-Hill, 1938); "The effect of direct charges to surplus on the measurement of income," in Business and modern society (Harvard Univ. Press, 1937). **G** W.

HOTCHKISS, George Burton, 100 Washington Sq. E., New York City. (1941) **A** New York Univ., prof. of market., T. **B** B.A., 1905, M.A., 1906, Yale. **D** 12, 2, 19. **E** Official regulation of price and quality of consumer goods. **F** Milestones of marketing (Macmillan, 1938); An outline of advertising (Macmillan, rev. 1940); Advertising copy (Harper, rev. 1936). **G** W.

HOTCHKISS, Hervey D., Ft. Slocum, N.Y. (1939) **A U. S. Army, 1st lieut.**; The Citadel, asst. prof. of econ., T. **B** B.S., 1934, Buffalo; A.M., 1936, Cornell. **D** 7, 6, 9. **E** Guaranty of bank deposits. **F** "Inflation—and beyond," Bankers' Mag., 1941.

HOTCHKISS, Willard Eugene, Carnegie Inst. of Tech., Pittsburgh, Pa. (1902) **A** Carnegie Inst. of Tech., Div. of Humanistic and Soc. Studies, dir., Maurice Falk prof. of soc. rela., TA. **B** Ph.B., 1897, M.A., 1903, Ph.D., 1905, Cornell; LL.D., 1927, Northwestern. **C** The judicial work of the Comptroller of the Treasury compared with similar functions in the governments of France and Germany: a study in administrative law (Holt, 1910). **D** 17, 1, 11. **E** Humanistic and social stem of engineering education. **F** Mechanization in bituminous-coal mining (Nat. Res. Proj., 1939); Business in the new era (Man and his world series, Van Nostrand, 1929); History of the Shipbuilding Labor Adjustment Board (with H. R. Seager) (U. S. Dept. of Labor, 1921). **G** WSIE.

HOTTENSTEIN, Marcus Stephen, 60 E. 42nd St., New York City. (1922) **A** Attorney. **B** LL.B., 1899, Pennsylvania; A.M., 1899, Muhlenberg. **D** 10, 9, 14. **E** Establishment of permanent peace after present war.

HOUCHINS, Joseph Roosevelt, 1208 Lamont St., N.W., Washington, D.C. (1937)

HOUGH, Louis Stone, 5400 Greenwood Ave., Chicago, Ill. (1942) **A** R. **B** A.B., 1936, A.M., 1942, Chicago. **D** 1, 7, 4. **E** Special problems of economic maturity (doctoral dissertation).

HOUSTON, G. Sidney, First Service Corp., First Nat. Bank Bldg., St. Paul, Minn. (1936) **A** First Service Corp., Invest. Res. Dept., mgr., B. **D** 9, 4, 5.

***HOUSTON, Samuel Frederic,** 512 Real Estate Trust Bldg., Philadelphia, Pa. (1888) **A** Real Estate Trust Co. of Philadelphia, pres. **B** Ph.B., 1887, LL.D., 1939, Pennsylvania. **G** W.

HOVDE, Howard T., Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1934) **A U. S. Dept. of Com., Bur. of For. and Dom. Com., prin. econ.,** RA; Univ. of Pennsylvania, Wharton School, Market. Dept., asst. prof., T. **B** B.S., 1922, Ph.D., 1930, Pennsylvania. **C** The relative effects of size of type, leading and context (Jour. of Applied Psych., Vol. 13, No. 6, and Vol. 14, No. 1). **D** 12, 19, 10. **E** War and postwar planning for marketing. **F** "Marketing in our American economy," The Annals, May, 1940; Pay roll policies in Philadelphia (Univ. of Pennsylvania, 1937); Newspaper reading habits (1932). **G** S.

HOWARD, Bion Bradbury, 1740 K St., N.W., Washington, D.C. (1941) **A OPA, asso. econ.,** R. **B** B.S., 1933, Chicago; M.B.A., 1940, Northwestern. **D** 9, 7, 5. **E** A financial analysis of the proposed Chicago traction consolidation.

HOWARD, Charles Harold, 65 Broad St., Rochester, N.Y. (1923) **A** U. S. Employ. Serv., N.Y., asst. dir., A. **B** M.A., 1926, Johns Hopkins. **D** 17, 18, 1. **F** The emergence of a new public employment service (with Jess T. Hopkins, Mabel E. Crofts, and Willard E. Parker) (Pub. Employ. Center of Rochester, 1935); "Commercial and professional placement procedures in a public employment office," Personnel Jour., Feb., 1934.

HOWARD, Edwin Henry, Box 796, Lexington, Va. (1925) **A** Washington and Lee Univ., asst. prof., T. **B** B.S., 1924, Washington and Lee; M.S., 1932, Columbia. **D** 4, 6.

HOWARD, Stanley Edwin, 105 FitzRandolph Rd., Princeton, N.J. (1912) **A** Princeton Univ., Dept. of Econ., chmn., prof., TR. **B** A.B., 1910, Bates; A.M., 1913, Ph.D., 1916, Princeton. **C** The movement of wages in the cotton manufacturing industry of New England since 1860 (Nat. Coun. of Amer. Cotton Mfrs., Boston, 1920). **D** 9, 4, 2. **E** Problems of corporation finance from public policy point of view. **F** Series of articles on French commercial law, Acctg. Rev., 1932-34; articles on special partnership forms in N.J., Jour. of Bus., 1934, 1936; The A B C of accounting (Princeton Univ. Press, rev. 1938). **G** S.

HOWARD, T. Levron, "Bush Lodge," Kirkwood Ave., Knoxville, Tenn. (1938)

HOWARD, Tasker, Jr., 2011 Columbia Rd., N.W., Washington, D.C. (1941) **A** NLRB, asso. field exam. **B** Graduated, 1937, Black Mountain Col.; M.A., 1939, Columbia. **D** 17, 11, 19.

HOWELL, Paul Lloyd, 1701 Massachusetts Ave., N.W., Washington, D.C. (1941) **A U. S. Navy, lieut. (j.g.)**; SEC, util. fin. anal., R. **B** B.B.A., 1931, M.A., 1934, Univ. of Washington; A.M., 1942, Harvard. **D** 9, 11, 14. **E** Regulation of issuance of securities under the Pub. Util. Hold. Co. Act of 1935 (doctoral dissertation). **F** Joint author, The problem of maintaining arm's length bargaining and competitive conditions in the sale and distribution of securities of registered public utility holding companies and their subsidiaries (SEC, 1940); Depreciation and dividend statistics of electric and gas subsidiaries of registered public utility holding companies, 1930-40 (with L. T. Fournier) (SEC, 1942); "Regulatory standards for utility securities under the Public Utility Holding Company Act of 1935" (with L. T. Fournier), Report of Com. on Corp. Fin. (Nat. Asso. of R.R. and Util. Com.), 1941.

HOWELL, Philip Lewis, Hendrix Col., Conway, Ark. (1936) **A** Hendrix Col., asst. prof., T. **B** A.B., 1934, A.M., 1935, Pennsylvania. **D** 17, 10, 3. **E** Closed shop and trade union democracy (doctoral dissertation).

HOWEY, Richard S., Univ. of Kansas, Lawrence, Kan. (1930) **A** Univ. of Kansas, prof., T.

B S.B., 1926, Harvard; M.A., 1929, Southern California. D 1, 7, 8.

HOYT, Elizabeth Ellis, Iowa State Col., Dept. of Econ., Ames, Iowa. (1925) A Iowa State Col., prof. B A.B., 1913, Boston Univ.; A.M., 1924, Ph.D., 1925, Radcliffe. C Primitive trade (Keegan Paul, London, 1926). D 19. E Evolution of American standard of living; comparative standards of living. F Consumption of wealth (Macmillan, 1928); Consumption in our society (McGraw-Hill, 1938). G S.

HOYT, Homer, 20 N. Wacker Dr., Room 1470, Chicago, Ill. (1936) A Chicago Plan Com., dir. of res., R. B A.B., A.M., 1913, Kansas; J.D., 1918, Ph.D., 1933, Chicago. C One hundred years of land values in Chicago (Univ. of Chicago Press, 1933). D 16, 20, 5. E Land use master plan of Chicago. F Structure and growth of residential neighborhoods in American cities (Gov. Print. Office, 1939); Principles of urban real estate (Ronald Press, 1939). G S.

HUBBARD, Joseph Bradley, Harvard Univ., School of Bus. Admin., Soldiers Field, Boston, Mass. (1914) A Harvard Bus. Rev., manage. ed., T. B A.B., 1912, M.A., 1913, Wisconsin; Ph.D., 1923, Harvard. C Economic thought in patristic literature. D 5, 11, 4. E Flexibility of capital structures; analysis of and reports on business problems. F The banks, the budget, and business (Macmillan, 1934); "Easy money: doctrine and results," Harvard Bus. Rev., 1940-41; "Industrial bond and preferred stock refundings, 1933-37," Rev. of Econ. Statis., 1938, 1940. G S.

HUBER, J(ohn) Richard, 513 Tuckerman St., N.W., Washington, D.C. (1934) A **U. S. Gov. Office of Strategic Services, sr. econ., R;** Univ. of Washington, asso. prof., TR. B B.A., 1931, Wooster; M.A., 1933, Ph.D., 1937, Princeton. D 8, 1, 19.

HUBER, Milton Littlefield, 2709 S. Wayne St., Mt. Vernon, N.Y. (1941) A **U. S. Dept. of Com., econ.,** R. B B.A., 1937, M.S., 1940, Columbia. D 19, 5, 4. E Demand determining factors of certain food products.

HUDSON, Hersel Wendell, 603 Vine St., Kent, Ohio. (1929) A Kent State Univ., Dept. of Econ., head, prof., TA. B B.S., 1920, M.S., 1927, Ph.D., 1933, Illinois. C Economic effects of quality of water. D 1, 19, 6. F Soap usage and water hardness (Ill. W. Survey, 1933); "Quality of water and soap consumption," J.A.W.W.A., May, 1933; "Cost of soap waste for hard water cities," Engr. Record, July 30, 1932. G E.

HUDSON, Philip Graydon, 1133 E. Helen St., Tucson, Ariz. (1935) A Univ. of Ariz., asst. prof., T. B B.S.B.A., 1930, M.S., 1933, Arizona; Ph.D., 1938, Illinois. C The use of statistical methods to measure the physical volume of production. D 1, 6, 4. F "The technical problems and limitations in measuring physical production," Jour. of Amer. Statis. Asso., June, 1939; "Homestead tax exemption and school finance," Elem. School Jour., Sept., 1940; "The possibility of maintaining a positive rate of physical production growth," S.E.J., Oct., 1941.

HUEBNER, Grover Gerhardt, Univ. of Pennsylvania, Logan Hall, Philadelphia, Pa. (1914)

HUEBNER, Solomon Stephen, Univ. of Pennsylvania, Philadelphia, Pa. (1914) A Univ. of Pennsylvania, prof. B B.L., 1902, M.L., 1903, Wisconsin; Ph.D., 1905, Sc.D., Pennsylvania. C Development of marine insurance in the United States. D 9, 5. F Life insurance (1935), Property insurance (1938), The stock market (1934) (Appleton-Century). G WSE.

HUEGY, Harvey Wilborn, Univ. of Illinois, Urbana, Ill. (1934) A **OPA, sr. econ., RA;** Univ. of Illinois, asst. prof., TR. B B.S., 1924, M.S., 1929, Ph.D., 1934, Illinois. C An economic analysis of installment credit. D 12, 9, 11. F Elements of marketing (Prentice-Hall, 1940); The financial policies and practices of automobile finance companies (1938). Stock control records (1942) (Univ. of Illinois. Bur. of Bus. Res.). G E.

HUELSTER, Lowell Frederick, 792 Lenox Rd., Glen Ellyn, Ill. (1937) A Central Y.M.C.A. Col., Dept. of Bus. Admin., chmn., prof., T. B A.B., 1926, Lawrence; M.A., 1927, Ph.D., 1931, Illinois. C The natural gas industry as a public utility. D 14, 9, 7. G S.

HUGHES, James F., 14 Wall St., New York City. (1940)

HUGHES, (Mrs.) Molly Wilson, P.O. Box 49, Entebbe, Uganda (via Liverpool). (1936)

HUMPHREY, Don Dougan, 2924 Argyle Dr., Alexandria, Va. (1933) A **OPA, Res. Div., Price Anal. and Rev. Br., chief, R.** B A.B., 1929, Ohio State; Ph.D., 1932, California. C David Hume: the economist. D 1, 11, 5. F "Nature and meaning of rigid prices," J.P.E., Oct., 1937; Family unemployment (WPA, 1940); Price control reports (OPA, 1942). G. S.

HUNSBERGER, George Ephraim, Univ. of Arkansas, Col. of Bus. Admin., Fayetteville, Ark. (1934) A Univ. of Arkansas, asso. prof., T. B A.B., 1925, M.A., 1930, Oberlin; Ph.D., 1934, Virginia. C The development of tariff policy in the Republican Party. D 8, 17, 1. F "Results of the Hull trade program," Ark. Bus. Bul., Apr., 1937; "The reciprocal trade agreements program," Ark. Bus. Bul., Mar., 1936; "Suggested changes in the economics curriculum," A.E.R., Dec., 1937.

HUNSBERGER, Warren Seabury, 313 W. Fornance St., Norristown, Pa. (1935) A **U. S. Naval Reserve, lieut. (j.g.), detailed to BEW, sr. econ. anal., R;** Univ. of New Hampshire, asst. prof. of econ., T. B A.B., 1933, Ph.D., 1937, Yale. C The international financial position of Japan. D 8, 6, 7. E Japanese financial administration and exploitation in occupied areas. F "Japan's position in international payments," Far Eastern Survey, June 15, 1938; "The Yen Bloc in Japan's expansion program," Far Eastern Survey, Nov. 9, 1938. G S.

HUNT, Bishop Carleton, Hanover, Mass. (1921) A Nat. Bur. of Econ. Res., R. B B.B.A., 1920, Boston Univ.; A.M., 1926, Ph.D., 1930, Harvard. C The development of the joint stock company in England, 1800-67. D 4, 6, 2. E Comparative study of taxable and business income. F "English company law reform," Harvard Bus. Rev., 1930; Development of business corporation in England 1800-67 (Harvard Univ. Press, 1936); editor, Twenty-five years of accounting responsibility (G. O. May) (Amer. Inst. Pub. Co., 1936). G S.

HUNT, Elgin Fraser, 5404 Kimbark Ave., Chicago, Ill. (1933) A Woodrow Wilson Junior Col., Soc. Sci. Dept., chmn., T. B A.B., 1917, Oberlin. D 7, 1, 5. E Monetary and banking theory in the textbook literature (doctoral dissertation, Chicago). F Joint author, Introduction to social science (Macmillan, 1942).

HUNT, Pearson, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1935) A Harvard Univ., asst. prof., T. B Ph.B., 1930, Yale; M.B.A., 1933, D.C.S., 1939, Harvard. C Portfolio policies of commercial banks in the United States, 1920-39 (Harvard Univ. Bus. Res. Study 24, Jan., 1940). D 9, 1, 10. E Effects of war on financial structure. F "The standing receiver in bankruptcy in New York," Yale Law Jour., Nov., 1939; Financial requirements of department stores (with A. R. Koch) (Harvard Bur. of Bus. Res., June, 1942). G S.

HUNT, Rockwell Dennis, Univ. of Southern California, Los Angeles, Calif. (1908)

HUNT, Stanley Browne, 10 E. 40th St., New York City. (1928) A Textile Econ. Bur., pres., Rayon Organon, ed., R. B B.S., 1925, Illinois; M.B.A., 1928, Harvard.

HUNTER, Merlin Harold, Univ. of Illinois, 225 Commerce Bldg., Urbana, Ill. (1915) A Univ. of Illinois, Dept. of Econ., head. B B.A., 1912, LL.D., 1940, Muskingum; M.A., 1913, Princeton; Ph.D., 1916, Cornell. C The development of corporation taxation in the state of New York. D 6, 1. F Principles of public finance (with H. K. Allen) (Harper, 1941); Outlines of public finance (Harper, 1926). G WSE.

HUNTINGTON, Charles Clifford, Ohio State Univ., Columbus, Ohio. (1905)

HUNTINGTON, Emily H., Univ. of California, 119 South Hall, Berkeley, Calif. (1925)

HUPP, Burr Willard, 1001 Indiana Ave., La-

Porte, Ind. (1938) **A** **Northwestern Univ., grad. teaching asst., T. B** B.A., 1936, DePauw. **D** 7, 6, 5.

HURLIN, Ralph G., Russell Sage Found., 130 E. 22nd St., New York City. (1921)

HURWICZ, Leonid, Univ. of Chicago, Com. on Price Control and Rationing, Chicago, Ill. (1941) **A** Cowles Com., res. asso.; Com. on Price Control and Rationing, asso. dir. of study, R. **B** LL.M., 1938, Univ. of Warsaw. **D** 5, 4, 10. **E** Testing of business cycle theories; price control and rationing.

HUSBAND, William H., First Fed. Savings and Loan Asso., Waterbury, Conn. (1927) **A** First Fed. Savings and Loan Asso., vice-pres., AB. **B** A.B., 1922, Michigan; M.A., 1924, Ph.D., 1928, Ohio State. **C** Financing of industrial consolidations. **D** 9, 7, 10. **F** Modern corporation finance (R. D. Irwin, 1942). **G** WS.

HUSE, Charles Phillips, 13 Pine St., Belmont, Mass. (1908) **A** Boston Univ., prof., T. **B** A.B., 1904, A.M., 1905, Ph.D., 1907, Harvard. **C** Financial history of Boston, 1822-59 (Harvard Univ. Press, 1916). **D** 6, 2, 1. **E** Financial history of Boston town. **F** "The influence of economic environment on the development of public revenues in England," in Facts and factors in economic history (Harvard Univ. Press, 1932). **G** WS.

HUSTON, Joseph Wallace, 809 Williams Blvd., Springfield, Ill. (1934) **A** State of Ill., Dept. of Fin., Div. of Res. and Statis., sup., RA. **B** A.B., 1929, Drake; A.M., 1935, Chicago. **D** 6, 7, 17. **E** Ill. state revenues and budget policies. **F** Toward effective tax collections—factors influencing completeness of collection of state consumption excise taxes (with Thomas L. Smith) (Fed. of Tax Admin., 1942).

HUTCHESON, Harold Houston, 1914 Hanover Ave., Richmond, Va. (1937)

HUTCHINS, John Greenwood Brown, Cornell Univ., Dept. of Econ., Ithaca, N.Y. (1935)

HUTCHINSON, Kenneth Douglass, Pennsylvania State Col., Dept. of Econ., State College, Pa. (1930) **A** Pennsylvania State Col., asso. prof., T. **B** A.B., 1923, Oberlin; M.B.A., 1926, M.A., 1932, Ph.D., 1939, Harvard. **C** Economic aspects of imitation in consumer style goods. **D** 1, 10, 12. **E** Economic implications of monopoly. **F** "Design piracy," Harvard Bus. Rev., 1940; "Traffic and trade correlations," Jour. of Market., 1941.

HYDE, D(uncan) Clark, P.O. Box 1385, University Sta., Charlottesville, Va. (1921) **A** Univ. of Virginia, asso. prof. of econ., T. **B** B.A., 1917, McGill; A.M., 1918, Ph.D., 1921, Harvard. **C** Canadian war finance, 1914-19. **D** 2, 3, 4. **E** National economic policy, 1929-36.

***ILES, George,** Hotel Chelsea, 222 W. 23rd St., New York City. (1888)

INMAN, Mark Keith, Univ. of Western Ontario, London, Ont., Canada. (1938) **A** Univ. of Western Ontario, dept. head., prof., T. **B** B.A., 1925, Acadia; M.A., 1928, Ph.D., 1938, Harvard. **C** Experience in Canadian banking, 1929-34. **D** 7, 1, 2. **F** A social approach to economics (with H. A. Logan) (Univ. of Toronto Press, 1939). **G** S.

INNIS, Harold Adams, Univ. of Toronto, Toronto, Canada. (1923)

IRONS, Watrous Henry, 2814 Glenview Ave., Austin, Tex. (1937) **A OPA, RA;** Univ. of Texas, asso. prof., T. **B** B.A., 1925, Pennsylvania State Col.; M.A., 1933, Ph.D., 1937, Pennsylvania. **C** Causes underlying international gold standard crisis, 1925-34 (Feroe Press). **D** 7, 8. **F** Commercial credit and collection practice (Ronald Press, 1942).

***IRWIN, Dudley M.,** 132 Lancaster Ave., Buffalo, N.Y. (1890)

IRWIN, Harold Speer, 141 W. Jackson, Room 1200, Chicago, Ill. (1928) **A** U. S. Dept. of Agric., Agric. Market. Admin., Commodity Exch. Br., sr. agric. econ., R. **B** B.S., 1917, Iowa State Col.; M.S., 1922, Wisconsin. **D** 15, 12, 4. **E** Patterns of daily price changes in Chicago wheat futures; intrasessional fluctuations in Chicago wheat futures prices. **F** "The nature of risk assumption in the trading on organized exchanges," A.E.R., June, 1937; "Legal status of futures trading," Ill. Law Jour., June, 1937.

IRWIN, William Alex, Amer. Inst. of Banking, 22 E. 40th St., New York City. (1934)

ISAACS, Asher, Univ. of Pittsburgh, Pittsburgh, Pa. (1934) **A** Univ. of Pittsburgh, asso. prof., T. **B** A.B., 1923, A.M., 1924, Cincinnati; A.M., 1926, Ph.D., 1933, Harvard. **C** Principles of comparative advantage: a study in verification. **D** 8, 19, 1. **E** International commercial policies. **G** S.

ISE, John, 1208 Mississippi St., Lawrence, Kan. (1911) **A** Univ. of Kansas, prof., T. **B** Mus.B., 1908, LL.B., 1911, Kansas; Ph.D., 1914, Harvard. **C** U. S. Forest policy (Yale Press, 1920). **D** 15, 1, 3. **E** U. S. park policy. **F** U. S. oil policy (Yale Press, 1926); Sod and stubble: the story of a Kansas homestead (Wilson-Erickson, 1936); editor, Sod-house days: letters of a Kansas homesteader (Columbia Univ. Press, 1937). **G** SE.

JACKMAN, William T., 171 St. Leonards Ave., Toronto, 12, Canada. (1934) **A** Retired. **B** M.A. **D** 14, 15, 9. **F** Transportation in modern England (Cambridge Univ. Press, 1916); Economics of transportation (Univ. of Toronto Press, 1926); Economic principles of transportation (Univ. of Toronto Press, 1935).

§JACKSON, Dugald Caleb, 5 Mercer Circle, Cambridge, Mass. (1923) **A** M.I.T., prof. emeritus, TRA. **B** B.S., 1885, C.E., 1887, Pennsylvania State Col.; D.Sc. (Hon.), 1932, Columbia; D.Eng. (Hon.), 1938, Northeastern. **D** 14, 13. **E** Influence of engineering on the development of civilization. **F** Engineering's part in the development of civilization (Amer. Soc. of Mech. Engrs., 1939). **G** WIE.

JACKSON, J(acob) Hugh, Grad. School of Bus., Stanford University, Calif. (1917) **A** Stanford Univ., dean, prof., TA. **B** A.B., 1912, LL.D., 1930, Simpson; M.B.A., 1920, Harvard; C.P.A., 1919, Wisconsin, 1920, Massachusetts, 1927, California. **D** 4, 11, 10. **F** Audit working papers (Amer. Inst. Pub. Co., 1923); Auditing problems (Ronald Press, 1929); Accounting principles (C. R. Hadley Co., Los Angeles, 1942). **G** WSE.

JACKSON, James Roy, R.F.D. 2, Wentzville, Mo. (1927) **A** St. Louis Univ. School of Com. and Fin., dept. head, prof., T; Investment Anal. Bur., dir. and owner, B. **B** M.A., 1924, Ph.D., 1927, Chicago. **C** Common and preferred stocks as investments (Jour. of Bus., 1928). **D** 9, 5, 7. **E** Investment programs for banks and individuals. **F** "Stocks and investments," Jour. of Bus., 1928; Investment review (Invest. Anal. Bur., 1931 ff.).

JACKSON, Kathleen Condict, Hollins College, Va. (1927) **A** Hollins Col., Dept. of Econ. and Soc., head, asso. prof., T. **B** A.B., 1924, Vassar; A.M., 1926, Stanford. **D** 6, 7, 9. **E** Rural public finance in Dutchess Co., N.Y. (doctoral dissertation, Columbia).

JACOBS, Arthur Theodore, 2700 Connecticut Ave., Washington, D.C. (1938) **A** Soc. Sec. Bd., Bur. of Employ. Sec., Cur. Anal. and Rev. Unit, chief, R. **B** B.A., 1934, M.A., 1935, Wisconsin. **D** 17, 18, 10. **E** Labor market problems of leading war industries. **F** Methods of clearance between unemployment compensation and relief agencies (S.S.R.C., Mar., 1940); "Employment and wages of workers covered by state unemployment compensation laws, 1939," Soc. Sec. Bul., May, 1941; "Job seekers and placements, 1940," Soc. Sec. Yearbook, 1940, June, 1941.

JACOBS, Clifford D., State Col. of Washington, Pullman, Wash. (1930)

JACOBS, George Robert, 2201 Massachusetts Ave., N.W., Washington, D.C. (1942) **A WPB, econ.-statis., R;** gov. serv., econ.-statis. **B** A.B., 1940, Harvard. **D** 5, 6, 4.

JACOBY, Neil Herman, 5529 University Ave., Chicago, Ill. (1933)

JACQUELIN, Dorothy Grant, 1701 16th St., N.W., Washington, D.C. (1941) **A** U. S. Tariff Com., econ., R. **B** A.B., 1936, M.A., 1937, California; Ph.D., 1939, Univ. of Geneva, Switzerland. **C** Swiss-American economic relations (Geneva Res. Center, 1939). **D** 8, 16, 10. **E** Economic structure of the Netherlands Indies and British Malaya with special reference to commodities, industrialization, and labor problems.

JAFFÉ, William, Northwestern Univ., Evanston,

Ill. (1925) **A** Northwestern Univ., asso. prof., TR. **B** B.A., 1918, City of New York; M.A., 1919, Columbia; Docteur en Droit, 1924, Univ. of Paris. **C** Les théories économiques et sociales de Thorstein Veblen (Marcel Giard, Paris, 1924). **D** 1, 4, 2. **E** Introduction to mathematical economics. **F** Economic development of postwar France (Columbia Univ. Press, 1929); "Unpublished papers and letters of Léon Walras," J.P.E., 1935; "Léon Walras' theory of capital accumulation," in Studies in mathematical economics (Univ. of Chicago Press, 1942). **G** S.

JAMES, Clifford Lester, Ohio State Univ., Columbus, Ohio. (1930) **A OPA, Reg. III, reg. price exec., A;** Ohio State Univ., prof. of econ., TR. **B** B.A., 1925, M.A., 1926, Ohio State; Ph.D., 1930, Harvard. **C** Australian tariff policy, 1901-29. **D** 8, 1, 3. **F** Industrial concentration and tariff (TNEC Mono. 10, 1940-41). **G** S.

JAMES, F. Cyril, McGill Univ., Montreal, Canada. (1934) **A** McGill Univ., prof. of polit. econ., prin., vice-chancellor; Dominion Com. on Reconstruction, chmn.; TA. **B** B.Com., 1923, London, Univ.; M.A., 1924, Ph.D., 1926, Pennsylvania. **C** Cyclical fluctuations in the shipping and shipbuilding industries (Westbrook, Philadelphia, 1927). **D** 7, 5, 2. **F** Growth of Chicago banks (Harper, 1938); Economics of money, credit, and banking (Ronald Press, 3rd ed., 1941). **G** WSIE.

JAMES, Kenneth V., 8 Meadow Hills, R.D. 10, Knoxville, Tenn. (1941) **A** TVA, ind. econ., RA. **B** B.S. in C. and B.A., 1931, Alabama; LL.B., 1934, Jones. **D** 13, 14, 4. **E** Industrial surplus and deficiency of Southeast; industrial water supply, Tenn. Valley region. **F** "The interterritorial freight rate problem of the United States," H.D. 264, 75th Cong., 1st Sess., 1937; "Supplemental phases of the interterritorial freight rate problem," H.D. 271, 76th Cong., 1st Sess., 1939.

JAMESON, Mary Ethel, 247 Park Ave., New York City. (1936) **A** Conf. Bd., libn., R. **D** 4, 17. **E** Index numbers; taxation.

JAMIESON, Stuart Marshall, 166 Pulteney St., Geneva, N.Y. (1941)

JAMISON, Charles Laselle, 108 Tappan Hall, Ann Arbor, Mich. (1923)

JANSSEN, Hans, 1109 Douglas Ave., Yankton, S.D. (1938) **A** Yankton Col., asso. prof. of econ. and bus. admin., T. **B** B.A., 1935, M.A., 1936, Ph.D., 1942, Pennsylvania State Col. **C** Governmental price policies of the Third Reich. **D** 11, 12, 1. **E** Problem of the "just price." **F** "The stocking frame of William Lee," Mill and Textile Monthly, 1929.

JANSSON, Roger Edward, 731 Melrose St., Chicago, Ill. (1942)

JARRETT, James McPherson, 7205 Bradley Blvd., Bethesda, Md. (1928) **A** U. S. Tariff Com., prin. econ. **B** B.S., 1926, Wooster; M.A., 1928, Ph.D., 1934, Princeton. **C** International double taxation of corporation income. **D** 8, 15, 6. **G** S.

JEFFERIS, Raymond Palmer, Jr., Blue Ridge Col., New Windsor, Md. (1939) **A** Blue Ridge Col., Dept. of Bus. Admin. and Econ., head, prof., TA. **B** B.S., 1936, M.S., 1942, Syracuse. **D** 1, 7, 8. **E** Investment trusts.

JEIDELS, Otto, 120 Broadway, New York City. (1911) **A** Lazard Freres and Co., partner, B. **B** Ph.D., 1904, Univ. of Berlin. **D** 7, 8, 9. **F** Relations between banks and industry in Germany (Leipzig, 1904); Wage system in German steel industry (1906) **G** W.

JEKEL, Oscar Henry, 517 S. Kirkwood Rd., Kirkwood, Mo. (1934) **A** Reliable Life Ins. Co., actuary; Capitol Town Mutual Ins. Co., secy.-treas.; B. **B** A.B., 1925, Michigan; A.M., 1934, Washington Univ. **D** 9, 4.

JENISON, Elsie Safford, Box 3443, Texas State Col. for Women, Denton, Tex. (1931) **A** Texas State Col. for Women, prof. **B** B.A., 1916, Wellesley; M.A., 1917, Ph.D., 1919, Columbia. **C** History of Province of Sicily. **D** 1, 17, 3.

JENKINS, Edward, Gen. Motors Overseas Corp., 1775 Broadway, New York City. (1938)

JENKINS, John Wilkinson, 545 Milledge Circle, Athens, Ga. (1924) **A** Univ. of Georgia, prof. of econ., T. **B** A.B., 1912, Mercer; M.A., 1915, Vanderbilt. **D** 12, 19, 14. **G** S.

JENKINS, L(loyd) Arthur, Univ. of Washington, 210 Commerce Hall, Seattle, Wash. (1941) **A Seattle Col., instr., T. B** B.A., 1931, M.A., 1942, Univ. of Washington. **D** 7, 17, 1. **F** State of Washington small loan act of 1941 (pamph., Consumer Credit Inst. of Amer., 1942).

JENKINS, Warder Bryan, 100 Aspen St., Chevy Chase, Md. (1940) **A** Dept. of Com., Census Bur., agric. statis., RA. **B** B.S. in Agric., 1917, Ohio State. **D** 4, 15, 8. **E** Small, unusual, and part-time farms. **F** Taxes on farm property in the United States, 1930 (U. S. Gov., 1933); Part-time farming in the United States, 1935 (with H. E. Robison) (U. S. Gov., 1937).

JENKS, Leland Hamilton, 18 Weston Rd., Wellesley, Mass. (1929) **A** Wellesley Col., prof., T. **B** A.B., 1913, Ottawa; A.M., 1914, Kansas; Ph.D., 1927, Columbia. **C** The migration of British capital to 1875 (Knopf, 1927). **D** 2, 8. **E** Migration of British capital since 1875; types of socio-economic systems in Latin America. **F** Our Cuban colony: a study in sugar (Vanguard Press, 1928); contributor, Problems of the new Cuba (For. Pol. Asso., 1934). **G** S.

JENNINGS, Henrietta Cooper, Norton, Mass. (1927) **A** Wheaton Col., prof. of econ. and soc., T. **B** A.B., 1922, M.A., 1923, Ph.D., 1927, Bryn Mawr. **C** The political theory of state-supported elementary education in England, 1750-1833 (1928). **D** 1, 10, 7. **E** British socialism in the early nineteenth century; consumer credit. **F** The consumer in commercial banking (Consumer Credit Inst. of Amer., 1939). **G** S.

JENNINGS, Walter Wilson, 1336 Fontaine Rd., Lexington, Ky. (1923) **A** Univ. of Kentucky, prof. **B** A.B., 1915, M.A., 1916, Ph.D., 1919, Illinois. **C** Origin and early history of the disciples of Christ. **D** 2, 11, 16. **E** American and European business leaders of the past; revision of histories. **F** The American embargo, 1807-09 (Univ. of Iowa, 1921); A history of the economic and social progress of European peoples (South-Western, 1936); A history of the economic and social progress of the American people (South-Western, 1937). **G** WSIE.

JENSEN, Finn Bjorn, Univ. of Kansas, Lawrence, Kan. (1941) **A** Univ. of Kansas, asst. prof., T. **B** A.B., 1934, M.A., 1935, Ph.D., 1940, Southern California. **C** The settlement of labor disputes in Norway. **D** 3, 8, 1. **E** American war economy.

JENSEN, Jens Peter, Univ. of Kansas, Dept. of Econ., Lawrence, Kan. (1919)

JENSEN, Vernon H., Univ. of Colorado, Dept. of Econ., Boulder, Colo. (1941) **A WLB, spec. investigator;** Univ. of Colorado, asst. prof., **T. B** Ph.D., 1939, California. **C** Labor relations in the Northwest lumber industry. **D** 17, 2, 18. **E** History of labor in lumbering (to be pub., Farrar and Rinehart, 1942).

JEREMIAH, David B., Univ. of Pennsylvania, 102 Hare Bldg., Philadelphia, Pa. (1941) **A** Univ. of Pennsylvania, asso. prof., **T. B** B.S., 1915, A.M., 1917, Ph.D., 1930, Pennsylvania. **C** Causes and prevention of corporate bond default. **D** 9, 7, 6. **F** Co-author, Business finance (Appleton-Century, 1941).

JESNESS, Oscar Bernard, Univ. Farm, St. Paul, Minn. (1920) **A** Univ. of Minnesota, Div. of Agric. Econ., chief, TRA. **B** B.S.A., 1912, M.S., 1924, Ph.D., 1928, Minnesota. **C** The marketing of tobacco (part pub. as Ky. Agric. Exp. Sta. Buls. 287, 288). **D** 15, 8, 12. **E** Agricultural economics. **F** Co-operative marketing of farm products (Lippincott, 1923); The American farmer and the export market (with A. A. Dowell) (Univ. of Minnesota Press, 1934); A program for land use in northern Minnesota (with R. E. Nowell and others) (Univ. of Minnesota Press, 1935). **G** WS.

‡**JÈZE, Gaston Paul,** Université de Paris, Paris, France. (1926)

JOCHER, Katharine, Univ. of North Carolina, Chapel Hill, N.C. (1926) **A** Univ. of North Carolina, Inst. for Res. in Soc. Sci., asst. dir., res. asso., asso. prof., TRA. **B** A.B., 1922, Goucher; A.M., 1923, Pennsylvania; Ph.D., 1929, North Caro-

lina. C Studies of methods of social research. D 18, 16, 1. E Folk sociology. F An introduction to social research (Holt, 1929). G S.

JOHN, Stuart (Wearne), Dallas Power and Light Co., Dallas, Tex. (1941) A Dallas Power and Light Co., Rate and Econ. Res. Dept., head, B. B S.B. in E.E., 1926, M.I.T. D 14, 16, 10.

JOHNSON, Alvin Saunders, New School for Soc. Res., 66 W. 12th St., New York City. (1927)

JOHNSON, Edgar Augustus Jerome, New York Univ., New York City. (1928) A New York Univ., prof. of econ. hist., TR. B B.S., 1922, Illinois; A.M., 1924, Ph.D., 1929, Harvard. C American economic thought in the seventeenth century (London, P. S. King and Son, 1932). D 2, 1. E Government and the enterprise system; the colonial heritage and the federal experiment. F Predecessors of Adam Smith (Prentice-Hall, 1937); Some origins of the modern economic world (Macmillan, 1935); An economic history of modern England (Nelson, 1939). G SE.

JOHNSON, Edwin Charles, Farm Credit Admin., Kansas City, Mo. (1925) A Farm Credit Admin., chief econ., RA. B B.S., 1920, Ph.D., 1929, Minnesota. C The agricultural credit situation in Kentucky. D 15, 7, 16. E Farm credit problems. G S.

*JOHNSON, Emory Richard, Univ. of Pennsylvania, Philadelphia, Pa. (1893) A Univ. of Pennsylvania, prof. emeritus, R. B B.L., 1888, M.L., 1891, Wisconsin; Ph.D., 1893, Sc.D. (Hon.) 1913, Pennsylvania. C Inland waterways: their relation to transportation (Amer. Acad. of Polit. and Soc. Sci., 1893). D 14, 10, 2. E Book on railroad problems and policies. F Panama Canal traffic and tolls (1912); Measurement of vessels for the Panama Canal (1913); Government regulation of transportation (1938). G WSIE.

JOHNSON, Ernest Amos, 9 College Campus, Lake Forest, Ill. (1925) A Lake Forest Col., prof. of econ., T, acting pres., A. B A.B., 1918, Colorado Col.; M.S., 1924, Denver; Ph.D., 1933, Northwestern. C The gold policy of the Federal Reserve System, 1914-19. D 7, 1, 9. F "The record of long term real estate securities," Jour. of Land and Pub. Util. Econ., Feb., May, Aug., 1936. G S.

JOHNSON, Everett Herschell, 3939 Pennsylvania Ave., S.E., Washington, D.C. (1941) A OPA, Res. Div., econ., R; T. B A.B., 1926, DePauw; A.M., 1929, Lehigh; Ph.D., 1942, Michigan. C The time factor in correlation with reference to certain forecasting problems in business. D 4, 9, 12.

JOHNSON, G. Griffith, Jr., 811 Crescent Dr., Alexandria, Va. (1939) A OPA, Steel Mill Prod. Sec., chief. B A.B., 1934, A.M., 1936, Ph.D., 1938, Harvard. C The treasury and monetary policy, 1933-38 (Harvard Univ. Press, 1939). D 6, 10, 11. F "Significance of government trust funds for monetary policy," in Public policy I (Harvard Univ. Press, 1940); Economics of federal public works expenditures (Nat. Res. Plan. Bd., 1940).

JOHNSON, Homer H., 1669 Union Trust Bldg., Cleveland, Ohio. (1913)

JOHNSON, Keith Whitaker, 138 33rd St., N.E., Washington, D.C. (1939) A Bur. of For. and Dom. Com., Construction Staff, asst. econ. anal., R. B A.B., 1934, Kansas; M.A., 1937, Duke. D 3, 1, 10. E Residential vacancy rates and the housing market; racial division of labor and the American Negro (doctoral dissertation). F The survival of the West (mono., Kansas Univ., 1934). G S.

JOHNSON, Oliver Ray, Univ. of Missouri, 220 Mumford Hall, Columbia, Mo. (1922) A Univ. of Missouri, prof., TRA. B B.S., 1910, M.A., 1912, Missouri; grad. work, Cornell. D 15, 2, 3. E Land tenure studies; farming systems for small farms; farm unit productivity and rents; productivity of pastures in Mo. F Mo. Agric. Exp. Sta. res. bul. No. 6 and other buls.; Mo. Ext. Circ. No. 135. G WE.

JOHNSON, Russell E., Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1936) A WPB, statis., R; Univ. of Minnesota, instr. in econ., T. B B.B.A., 1932, M.A., 1936, Minnesota. D 7, 5, 4. F "Construction and interpretation of business indexes," Mar., 1941, "Fundamental aspects of the problem of inflation," July, 1941, "Banking developments, 1925-39," July and Aug., 1940, Univ. of Alabama Bus. News.

JOHNSON, Sherman Ellsworth, 118 N. Jackson St., Arlington, Va. (1932) A U. S. Dept. of Agric., Bur. of Agric. Econ., head agric. econ., A. B B.S., 1924, M.S., 1926, Minnesota; Ph.D., 1938, Harvard. C Wheat under the Agricultural Adjustment Act (Brookings, 1934). D 15, 10, 16. E Farm-production capacity in the war effort. F "Adapting agricultural programs for war needs," Jour. of Farm Econ., Feb., 1942; joint author, Analysis of interregional competition in agriculture (mimeo., Bur. of Agric. Econ., Apr., 1939); Economic analysis of production problems in the Bitter Root Valley (Mont. Exp. Sta. Bul. 220, 1929). G S.

JOHNSON, Tyr V., 663 Woodmont Ave., Berkeley, Calif. (1941) A U. S. Dept. of Agric., Bur. of Agric. Econ., asst. agric. econ., R. B B.S., 1933, M.S., 1935, California. D 15, 20, 6. E Effects of war on land market. F Migration and county finance, California, 1930-40 (U. S. Dept. of Agric., in press).

JOHNSTON, Clarence Elmer, 509 Monroe Ave., Scranton, Pa. (1931) A Int. Corres. Schools, dean, TB. B M.A., 1913, Toronto; B.Litt., 1920, Oxford; M.B.A., 1925, Harvard. D 4, 11, 14. F Cost accounting—principles and methods (with C. Reitell) (Int. Textbook Co., 1937); monographs on traffic and transportation (Int. Textbook Co., 1940-42).

JOHNSTON, Richard H., Library Bur. of Railway Econ., Washington, D.C. (1910)

JOLLEY, Elmer Otis, Jr., 1407 N. Vermont St., Arlington, Va. (1941)

JOME, Hiram Leonard, Greencastle, Ind. (1924) A DePauw Univ., Dept. of Econ., head, prof., T. B B.A., 1918, St. Olaf; M.A., 1920, Ph.D., 1925, Wisconsin. C The radio industry in its economic and legal aspects (pub. as Economics of the radio industry, A. W. Shaw, 1925). D 9, 1, 7. F "Property in the air as affected by the airplane and the radio," Jour. of Land and Pub. Util. Econ., 1928; "Commercial air transport," Harvard Bus. Rev., 1928; "The new schoolmaster in finance," Mich. Law Rev., 1942. G S.

JONES, Alvin Hamilton, 4014 Danneel St., New Orleans, Va. (1938) A Xavier Univ., dept. dir. B B.A., 1926, Columbia; M.A., 1938, Pennsylvania. D 17, 1, 8. E Cost of racial prejudice in New Orleans community; gambling rackets in New Orleans and economic influences. F Labor on New Orleans waterfront and some economic influences (1941); International control of copper industry to 1938 (1939).

JONES, Arthur Wetmore, 2059 38th St., S.E., Washington, D.C. (1942) A WPB, Shoes and Leather Prod., chief of res., RA. B 1915, New York. D 4, 13, 10. E Shoe and leather products industries.

JONES, Eliot, Stanford University, Calif. (1909) A Stanford Univ., prof., T. B A.B., 1906, Vanderbilt; A.M., 1908, Ph.D., 1913, Harvard. C The anthracite coal combination in the United States (Harvard Univ. Press, 1914). D 14, 10, 11. E Federal multi-purpose projects. F The trust problem in the United States (1921), Principles of railway transportation (1924), Principles of public utilities (1931) (Macmillan). G WSIE.

JONES, Fred Mitchell, Univ. of Illinois, Col. of Commerce, Urbana, Ill. (1937) A Univ. of Illinois, asso. in bus. org. and opera., T. B B.S., 1927, M.S., 1930, Ph.D., 1935, Illinois. C Middlemen in the domestic trade of the United States, 1800-60 (Univ. of Illinois, 1937). D 12, 11, 2. E Price lines in men's wear; history of American marketing. F Economic development of the United States (Macmillan, 1939); A survey of a retail trading area (Univ. of Illinois, 1932).

JONES, Frederick Hollon, 2008 Fort Davis St., S.E., Washington, D.C. (1941) A WPB, econ., RA. B B.A., 1936, California. D 11, 9, 4. E Adaptation of manufacturing industries to the requirements of the war production program. F Occupational trends in California manufacturing industries, with implications for vocational education (Calif. Dept. of Educa., Mar., 1938).

JONES, Grosvenor Monro, 3700 Massachusetts

Ave., N.W., Washington, D.C. (1920) **A** Bur. of For. and Dom. Com., asst. dir., A. **B** LL.B., 1909, Georgetown Univ. **D** 8, 7, 6. **F** Government aid to merchant shipping. (U. S. Dept. of Com., rev. 1925). **G** WSI.

JONES, Harold Edmund, 3018 Porter St., N.W., Washington, D.C. (1942) **A Bur. of For. and Dom. Com., Int. Econ. Unit, asso. econ. anal., R;** Temple City (Calif.) Times, pub., B. **B** A.B., 1930, Occidental; A.M., 1933, Princeton; grad. work, American. **D** 8, 14, 7.

JONES, Herschel Federman, 3300 Federal St., Chicago, Ill. (1938) **A** Illinois Inst. of Tech., instr., T. **B** A.B., 1931, Antioch; M.A., 1937, Nebraska; Ph.D., 1942, Wisconsin. **C** Integration of electric utilities in the United States. **D** 14, 2, 11. **E** Conservation of energy resources in the U.S. **F** Municipal electric and water systems in Nebraska (with C. E. McNeill) (1938), Nebraska's electric power development in relation to municipal service (with C. E. McNeill) (1939) (Univ. of Nebraska); "Relation of large scale production to certain costs of electric utilities in the United States," Jour. of Land and Pub. Util. Econ., Feb., 1942.

JONES, Homer, 3067 Ordway St., N.W., Washington, D.C. (1941) **A Office of Alien Property Custodian, Div. of Invest. and Res., chief, A;** FDIC, Div. of Res. and Statis., asst. chief, R. **B** B.A., 1927, M.A., 1928, Iowa; grad. work, Chicago. **D** 7, 6, 9. **F** "Insurance of bank deposits in the United States of America," Econ. Jour., Dec., 1938; "Implications of federal fiscal policy," in Financing the war (Tax Inst., Dec., 1941). **G** S.

JONES, Montfort, Univ. of Pittsburgh, Pittsburgh. Pa. (1922) **A** Univ. of Pittsburgh, prof. of fin., T. **B** B.A., 1912, M.A., 1914, Wisconsin. **D** 7, 9, 6. **G** W.

JONES, Ralph Coughenour, Yale Univ., 302 Sheffield Hall, New Haven, Conn. (1924) **A** Yale Univ., asso. prof. of econ., T. **B** B.S., 1922, M.S., 1923, Illinois; Ph.D., 1929, Yale; C.P.A., 1923, Illinois. **C** The consolidated return in federal taxation. **D** 4, 9, 6. **F** "Allocation accounting for the taxable income of industrial enterprises," in Taxation of international enterprises, Vol. V (League of Nations, 1933). **G** SE.

JONES, William Godfrey, 1478 Meridian Pl., Washington, D.C. (1941) **A OPA, asso. bus. econ., R. B** B.A., 1939, Univ. of Washington. **D** 6, 11, 17.

JONES, William Orville, P.O. Box 687, Balboa Island, Calif. (1941)

JORDAN, David Francis, 136 Shoreward Dr., Great Neck, N.Y. (1924) **A** New York Univ., prof., T. **B** B.C.S., 1919, New York. **D** 9, 18, 4. **F** Investments (Prentice-Hall, 1919); Managing personal finances (Prentice-Hall, 1936). **G** W.

JORDAN, Garret Lowell, Univ. of Illinois, 302 New Agric. Bldg., Urbana, Ill. (1939) **A** Univ. of Illinois, prof. of agric. econ., TR. **B** B.S., 1922, Purdue; A.M., 1929, Ph.D., 1933, Illinois. **C** Changing food habits in relation to land use in the United States. **D** 15, 5, 1. **E** Factors that affect the prices of grains and soybeans. **F** What can be expected of soybean prices? (Chicago Bd. of Trade, mimeo., Sept., 1941); "Implications of recent money and credit developments," Feb., 1938, "This war and the farmer," Feb., 1940, Ill. Farm Econ.

JORDAN, Virgil, 290 Potter Pl., Weehawken, N.J. (1929)

JOSEPH, (Sister) M. Edward, St. Mary's Col., Notre Dame, Holy Cross, Ind. (1939)

JUCIUS, Michael James, Ohio State Univ., Col. of Com. and Admin., Columbus, Ohio. (1934) **A** Ohio State Univ., asst. prof., T. **B** Ph.B., 1931, A.M., 1932, Chicago. **D** 11, 17, 4. **F** "Wage incentives," Jour. of Bus., 1932; "Plant location" (with W. N. Mitchell), Jour. of Bus., 1933.

JUNKIN, William Ross, Southwestern, Memphis, Tenn. (1929) **A** Southwestern, asso. prof., T. **B** B.A., 1926, Toronto; A.M., 1930, Cornell. **D** 14, 10, 7. **E** Electrical rate differentials in N. Y. State (doctoral dissertation).

KACMARYNSKI, Louis F., Col. of New Rochelle, New Rochelle, N.Y. (1940) **A** Col. of New Rochelle, prof. of acctg., T. **B** B.A., 1924, Buena Vista; M.A., 1925, Iowa; Ph.D., 1941, New York. **C** The Securities Act of 1933 in theory and practice. **D** 4, 9, 7.

KÄHLER, Alfred, 66 W. 12th St., New York City. (1940)

KAHLER, Clyde McCarty, 112 Crestview Rd., Upper Darby, Pa. (1926) **A** Univ. of Pennsylvania, asso. prof., T; Amer. Col. of Life Underwriters, dir. of educa. pub., A. **B** B.S., 1922, A.M., 1925, Ph.D., 1930, Pennsylvania. **C** Business interruption insurance (Rough Notes Co., Indianapolis). **D** 9, 4. **F** "Business interruption insurance," The Annals, 1932.

KAISER, Carl William, Russell Sage Col., Troy, N.Y. (1929) **A** Russell Sage Col., School of Bus., dir., TA. **B** B.S., 1926, Ph.D., 1934, Pennsylvania; A.M., 1930, Pittsburgh. **C** History of the academic protectionist-free trade controversy in America before 1860 (privately pub., 1939). **D** 1, 17, 19.

KALTENBORN, Howard Stanley, Waco, Neb. (1941) **A** Univ. of Nebraska, instr. in econ., TR. **B** A.B., 1937, M.A., 1938, Nebraska. **D** 17, 1, 18. **E** Mediation in labor disputes (doctoral dissertation, nearing completion).

KAMARCK, Andrew Martin, 2317 25th St., S.E., Washington, D.C. (1942) **A** U. S. Treas. Dept., Office of Secy., sr. econ. anal., R. **B** B.S., 1936, Harvard. **D** 10, 8, 11. **F** "German casualties in Russia," Field Artillery Jour., June, 1942.

KAMBER, Francis J., Brown Shoe Co., Charleston, Ill. (1942)

KAMINS, Robert Martin, 5514 Blackstone Ave., Chicago, Ill. (1942) **A** Federa. of Tax Admin., res. asst., R. **B** A.B., 1940, Chicago. **D** 6, 10, 3. **E** Impact of war upon federal tax structures. **F** "Is our tax burden greater than Britain's?" (with George H. Watson), Nat. Tax Asso. Bul., Jan., 1942.

KANE, John Ewing, Southwestern Univ., Memphis, Tenn. (1940)

KANE, Joseph Sylvester, 83-10 35th Ave., Jackson Heights, N.Y. (1938) **A U. S. Army, lieut., T;** lawyer, TB. **B** B.S., 1932, J.D., 1937, A.M., 1938, New York. **D** 10, 11, 17. **F** "War and prices," Glass Packer, Sept., 1940.

KANTOR, Harry S., 33-45 172nd St., Flushing, L.I., N.Y. (1922) **A** U. S. Dept. of Labor, Wage and Hour Div., chief statis. **B** B.A., 1924, M.A., 1925, Columbia. **D** 11, 4, 17. **F** Resale price maintenance legislation in the United States (1935), Price control in the coffee industry (1936), Wages and labor costs in gray iron foundries (1941) (Washington, D.C.). **G** S.

KAPLAN, Mortimer, 1001 Vermont Ave., N.W., Washington, D.C. (1941) **A** FHA, hous. econ., R. **B** A.B., 1936, Harvard; A.M., 1937, Columbia. **D** 5, 16, 6. **F** "An analysis of foreclosure risk," Insured Mortgage Portfolio, 1941; "A method of analyzing the elements of foreclosure risk," Jour. of Amer. Statis. Asso., June, 1942; Foreclosure experience with insured mortgages (FHA, to be pub.).

KAPP, Karl William, 42-08 205th St., Bayside, L.I., N.Y. (1938) **A Office of Co-ord. of Inf., consultant, R;** New York Univ., instr. in econ., T. **B** Ph.D., 1936, Univ. of Geneva, Switzerland. **C** Economic planning and foreign trade (Georg et Cie., Geneva, 1936). **D** 8, 1, 10. **E** Social costs and social returns. **F** The League of Nations and raw materials, 1919-39 (Geneva Studies, 1941); Postwar problems of industrial demobilization (Farrar and Rinehart, 1942).

***KARELSON, Eph. A.,** 230 Park Ave., New York City. (1919)

KARGER, Jacob, 210 E. Hickory St., East Rochester, N.Y. (1938)

KATTENHORN, Arthur William, 195 Broadway, New York City. (1925) **A** Amer. Tel. and Tel. Co., engr.

KAUFMAN, Abraham, 810 Hunts Point Ave., New York City. (1937) **A** Bd. of Educa., T. **B** A.B., 1922, Wisconsin; M.S., 1936, City of New York. **D** 1, 2, 8. **E** Early American books of account. **F** "The teaching of thrift," High Points (N.Y.C. Bd. of Educa.), May, 1937; "Literature as the guide to history," Soc. Studies, Mar., 1938; "What shall we teach adults?," School and Society, June 4, 1938.

KAUTZ, Katherine Iden, Kent Place School, Summit, N.J. (1932)

KAY, Albert, Classification Dept., Bldg. 389, Camp Croft, S.C. (1942)

KEAYS, Eldred M., 110 E. Wisconsin Ave., Milwaukee, Wis. (1911) **A** Wisconsin Co., invest. anal., B. **B** B.A., 1907, Harvard.

KEBKER, Vant Wilmot, Box 25, Forest Glen, Md. (1938) **A WPB. B** B.A., 1931, M.A., 1933, Ph.D., 1940, Minnesota. **C** An analysis of consumers' co-operation as a form of economic control (pub. in Consumers co-operation in the North-Central States, Univ. of Minnesota Press, 1940). **D** 12, 19, 1.

KEEZER, Dexter Merriam, Temporary Bldg. S, Room 1005, 6th and Jefferson Dr., Washington, D.C. (1925) **A OPA, deputy admin., A. B** A.B., 1920, LL.D., 1938, Amherst; A.M., 1923, Cornell; Ph.D., 1925, Brookings. **D** 3, 14, 17. **F** Problem economics (with A. T. Cutler and F. R. Garfield) (1928); The public control of business (with Stacy May) (1930). **G** WS.

KEIM, Albert G., 6629a Alamo Ave., Clayton, Mo. (1942)

KEIR, John Sibbit, Dennison Mfg. Co., Framingham, Mass. (1934) **A OPA, chief manage. consultant;** Dennison Mfg. Co., exec. vice-pres., dir., AB. **B** B.A., 1914, Wesleyan Univ.; M.A., 1916, Pennsylvania. **D** 11, 12, 10. **G** W.

KEIR, Malcolm, Dartmouth Col., Hanover, N.H. (1921)

KEIRSTEAD, Burton Seely, 84 Grey St., Fredericton, N.B., Canada. (1932) **A Dalhousie Univ., Inst. of Pub. Affairs, res. asso., R;** McGill Univ., prof., T. **B** B.A., 1928, New Brunswick; B.A., 1931, Oxford. **D** 1, 10. **E** Impact of war on Canadian maritime economy. **F** Essentials of price theory (Univ. of Toronto Press, 1942); Canadian economic war policy (Thomas Nelson and Sons, 1941).

KEISTER, Albert Samuel, Univ. of North Carolina, Woman's Col., Greensboro, N.C. (1924) **A** Woman's Col., prof. **B** A.B., 1910, Otterbein; A.M., 1911, Columbia; Ph.D., 1927, Chicago. **C** The management of personal savings. **D** 7, 9, 6. **E** Economic future of the Southeast. **F** Our financial system (Macmillan, 1930); "Recent tendencies in corporation finance," J.P.E., 1922; "Are government and business separate entities?" S.E.J., 1936. **G** S.

KEITH, E(dward) Gordon, 607 Whittier St., N.W., Washington, D.C. (1936) **A U. S. Treas. Dept., Div. of Tax Res., sr. econ., R;** Univ. of Pennsylvania, asst. prof., T. **B** B.A., 1927, Amherst; Ph.D., 1937, Harvard. **C** The financial history of two textile cities. **D** 6, 7, 1. **E** Determinants of volume of employment.

KELLER, Forrest Elwood, West Virginia Univ., Dept. of Econ., Morgantown, W.Va. (1936)

KELLER, Henry, Jr., Rutgers Univ., Dept. of Agric. Econ., New Brunswick, N.J. (1936) **A** Rutgers Univ., prof., TRA. **B** B.S., 1920, Pennsylvania State Col.; M.S., 1921, Ph.D., 1930, Wisconsin. **C** A study in comparative advantage: the Monmouth County potato area. **D** 15, 1, 11. **E** Analysis of factors leading to success in dairy farming.

KELLER, Louis A., Lake Forest Col., Lake Forest, Ill. (1929)

KELLEY, James Wilson, 236 Bay State Rd., Boston, Mass. (1942) **A Bur. of Labor Statis., Price Anal. Div., asst. reg. econ., N. E. Area, RA;** Boston Univ., asst. prof., TR. **B** A.B., 1932, Allegheny; A.M., 1934, Pittsburgh; Ph.D., 1941, Boston Univ. **C** Labor problems of the longshoremen in the United States. **D** 17, 1, 2. **E** A New England survey; a statistical abstract of industry and trade.

KELLEY, Nicholas, 70 Broadway, New York City. (1927)

KELLEY, Pearce Clement, Univ. of Arkansas, C-204, Fayetteville, Ark. (1928) **A** Univ. of Arkansas, Col. of Bus. Admin., TRA. **B** A.B., 1922, M.A., 1924, Ph.D., 1930, California. **C** Trends in retail distribution. **D** 12, 19, 11. **E** Small store operation during wartime. **F** "Techniques of management required to meet rapidly changing conditions," in A.M.A. Handbook of Bus. Admin. (McGraw-Hill, 1932); "Selecting executives," in Personnel (Amer. Manage. Asso.), Aug., 1933. **G** S.

KELLOGG, Lester Stanley, 104 Shady Lane, Falls Church, Va. (1928) **A U. S. Dept. of Labor, Bur. of Labor Statis., prin. econ., R;** Ohio State Univ., asst. prof., T. **B** A.B., 1927, M.A., 1928, Northwestern. **D** 4, 1, 11. **F** Business statistics (R. D. Irwin, 1941); Ohio manufacturing trade and agriculture in graphs (Ohio State Univ., Bur. of Bus. Res., 1940); Columbus—Street guide for census tracts, 1940 (Bur. of Bus. Res., 1940). **G** S.

KELLOGG, Ruth M., "Lilacstead," Wilton, Conn. (1929) **A War Dept., Q. M. Corps, counselor in charge, personnel. B** B.S., 1910, Kansas State Col.; A.M., 1927, Chicago. **D** 17, 19, 20. **F** The United States Employment Service (Univ. of Chicago Press, 1933).

KELLY, Armand Wells, Deep Springs, Calif. (1939) **A** Deep Springs Junior Col., asst. dir., TA. **B** A.B., 1934, A.M., 1938, Cornell. **D** 7, 5, 10.

KELLY, Edward John, 1756 N. Rhodes St., Arlington, Va. (1940)

KELLY, John J., 99 N. Grove St., Valley Stream, L.I., N.Y. (1942)

KELLY, Matthew Arnold, Princeton Univ., Dept. of Econ., Princeton, N.J. (1940) **A OPA, Retail Trade and Serv. Div., Res. Br., Spec. Problems and Anal. Sec., asst. dir., R;** Princeton Univ., instr., T. **B** A.B., 1936, Amherst; M.A., 1940, Princeton. **D** 17, 10, 18. **E** Public regulation of hours of work of laborers and mechanics in employ of federal government (doctoral dissertation); economic implications of Fair Labor Standards Act.

KELLY, Thomas A., 726 S. 19th Ave., Humboldt, Tenn. (1942) **A Procter and Gamble Defense Corp., asst. safety engr., B. B** A.B., 1933, M.A., 1940, Vanderbilt. **D** 1, 3, 4. **G** S.

KELLY, Thomas Herbert, University, Faculty of Com., Cape Town, S. Africa. (1930) **A** Univ. of Cape Town, sr. lecturer, TR. **B** B.Com., 1927, M.Com., 1928, Ph.D., 1930, Univ. of Birmingham, England. **C** Wages and labor organization in the brass and metal wares industries of Birmingham and district. **D** 4, 1, 9. **F** "Report of Commission on Agricultural Co-operation," S. African Jour. of Econ., June, 1934.

KELSEY, Carl, Univ. of Pennsylvania, Logal Hall, Philadelphia, Pa. (1909)

KELSO, Harold, 1651 Fuller St., N.W., Washington, D.C. (1934) **A Bd. of Investigation and Res., Transp. Act of 1940, sr. econ., R. B** B.A., 1930, Kansas; M.A., 1935, Ph.D., 1942, Wisconsin. **C** Inland waterways policy in the United States. **D** 14, 2, 4. **E** Public aids to transportation. **F** "Waterways vs. railways," A.E.R., Sept., 1941; "'Navigable waters' as a legal fiction," Nov., 1941, "Inland waterway carriers," Feb., 1942, Jour. of Land and Pub. Util. Econ.

KEMMERER, Donald Lorenzo, 1006 W. Armory Ave., Champaign, Ill. (1934) **A** Univ. of Illinois, asst. prof., T. **B** A.B., 1927, A.M., 1931, Ph.D., 1934, Princeton. **C** Path to freedom: the struggle for self-government in colonial New Jersey, 1703-76 (Princeton Univ. Press, 1940). **D** 2, 7. **E** Financial history of U.S.; brief economic history of U.S. **F** Economic history of the American people (with E. L. Bogart) (Longmans, Green, 1942); "The colonial loan office system in New Jersey," J.P.E., 1939. **G** S.

KEMMERER, Edwin Walter, 161 Hodge Rd., Princeton, N.J. (1903) **A** Princeton Univ., Walker prof. of int. fin., TR; advisory work for gov. and bus. **B** A.B., 1899, Wesleyan Univ.; Ph.D., 1903, Cornell. **C** Money and credit instruments in their relation to general prices (Holt, rev. 1909). **D** 7, 8, 6. **F** Modern currency reforms (Macmillan, 1916); Money—the principles of money and their exemplification. (Macmillan, 1936); Seasonal variations in the relative demand for money and capital (U. S. Gov., 1910). **G** WSE.

KEMP, Arthur, Yale Univ., Dept. of Econ., New Haven, Conn. (1939) **A** Yale Univ., instr. in econ., T. **B** B.S., 1939, Buffalo; M.B.A., 1940, Northwestern. **D** 7, 1, 8. **F** "Chromium: a strategic material," Harvard Bus. Rev., Winter, 1942.

KEMP, Hubert Richmond, Wartime Prices and Trade Bd., Ottawa, Canada. (1923) **A Wartime Prices and Trade Bd., econ. adviser, RA;** Univ.

of Toronto, prof. of com., TR. **B** M.A., 1919, Toronto. **D** 12, 8, 6. **F** Editor, Canadian marketing problems (Univ. of Toronto Press, 1939).

KENDIKIAN, Alice S., 326 Audubon Ave., New York City. (1941) **A** Pipe Fittings Mfrs. Asso., secy.-statis., B. **B** B.A., 1934, Columbia. **D** 4, 11. **E** Working for master's degree.

KENDRICK, M(yron) Slade, 225 Willard Way, Ithaca, N.Y. (1922) **A** Cornell Univ., prof. of econ. and pub. fin., TR. **B** A.B., 1918, A.M., 1921, Missouri; Ph.D., 1924, Cornell. **D** 6, 1, 10. **F** Taxation issues (Harper, 1933); The undistributed profits tax (Brookings, 1937); "The ability-to-pay theory of taxation," A.E.R., Mar., 1939. **G** S.

KENELY, Martin L., Bradley Hills C.C., Bethesda, Md. (1942)

KENNEDY, Donald Dwight, 3725 Macomb St., N.W., Washington, D.C. (1930) **A OPA, price exec., A**; Univ. of Newark, prof., T. **B** B.S., 1920, M.A., 1922, Pittsburgh; Ph.D., 1928, Pennsylvania. **C** Overhead costs and the shift to machinery. **D** 4, 10, 1. **F** Elementary accounting (Ronald Press, 1942).

KENNEDY, James Boyd, Clinton, S.C. (1935)

KENNEDY, Stephen Jay, 5823 14th St., N.W., Washington, D.C. (1935) **A U. S. Army, Office of the Q.M.G., major, B**; Pacific Mills, dir. of market res., B. **B** A.B., 1926, Illinois; M.A., 1931, Ph.D., 1936, Columbia. **C** Profits and losses in textiles (Harper, 1936). **D** 12, 11, 5. **F** Textile markets (with H. S. Davis and others) (Nat. Bur. of Econ. Res., 1940).

KENNEDY, William Francis, 4523 Avondale St., Bethesda, Md. (1941) **A WPB, Power Br., econ., R. B** A.B., 1933, A.M., 1936, Columbia; Ph.D., 1941, Wisconsin. **C** Regulation of utility servicing by the Securities and Exchange Commission (summary, Univ. of Wisconsin, 1942). **D** 14, 10, 1. **F** The objective rate plan (Columbia Univ. Press, 1937); "The Nebraska public power districts," Jour. of Land and Pub. Util. Econ., Feb., 1939; "Regulation of utility servicing under the Holding Company Act," Jour. of Land and Pub. Util. Econ., Feb., May, Aug., 1941.

KENT, Raymond Patrick, Box 114, Notre Dame, Ind. (1934) **A** Univ. of Notre Dame, asst. prof. of fin., T. **B** B.S., 1931, M.A., 1934, Ph.D., 1938, Pittsburgh. **C** Development of industrial unionism in the American iron and steel industry. **D** 7, 6, 4. **E** Textbook in money and banking.

KERBY, Jerome Lyle, Sul Ross State Col., Alpine, Tex. (1938) **A** Sul Ross State Teachers Col., Dept. of Bus. Admin., chmn., asso. prof., T. **B** B.B.A., 1931, M.B.A., 1933, Texas. **D** 10, 12, 14. **E** Wartime control of prices; effect of changing transportation upon marketing arrangements.

KERESTESY, Kathrine, 45 Christopher St., New York City. (1928)

KERN, E. Gerard, 220-21 93rd Rd., Queens Village, L.I., N.Y. (1940) **A** Remington Arms Co., Ballistic Laboratory, supervisor, A. **B** B.S. in Econ., 1940, New York. **D** 11, 9, 5.

KERN, Evely E., 220-21 93rd Rd., Queens Vil., L.I., N.Y. (1942)

KERR, Clark, Univ. of Washington, Col. of Econ. and Bus., Seattle, Wash. (1936) **A** Univ. of Washington, asst. prof., T. **B** A.B., 1932, Swarthmore; M.A., 1933, Stanford; Ph.D., 1939, California. **C** Productive enterprises of the unemployed. **D** 17, 20, 15. **E** Labor migration in wartime, Puget Sound, 1940-42; industrialized cotton growing in the far West. **F** Self-help co-operatives in California (with P. S. Taylor) (Univ. of California Press, 1935); "Comparative retailing costs of consumer co-operatives," The Annals, May, 1937; "Industrial relations in large-scale cotton farming," Proceedings, Pacific Coast Econ. Asso., 1940. **G** S.

KERR, Peyton, 1733 20th St., N.W., Washington, D.C. (1938)

KERRY, A. S., Jr., 1117 Federal Ave., Seattle, Wash. (1927)

KERSCHBAUM, Paul R., 5504 Lambeth Rd., Bethesda, Md. (1936)

KERSHAW, Joseph Alexander, 2700 S. 16th St., Apt. 651, Arlington, Va. (1939) **A OPA, econ., R. B** A.B., 1935, Princeton; A.M., 1938, New York. **D** 17, 1, 7. **E** Settlement of labor disputes on American railroads since 1926 (doctoral dissertation).

KESSLER, William Conrad, 19 W. Pleasant St., Hamilton, N.Y. (1938) **A** Colgate Univ., asst. prof., TR. **B** B.S., 1930, Pennsylvania; M.A., 1933, Ph.D., 1936, Harvard. **C** Regulation of German cartels by the Cartel Court. **D** 2, 11, 12. **E** History of American business corporation before the coming of general incorporation. **F** "German cartel regulation and the decree of 1923," Q.J.E., Aug., 1936; "A statistical study of the New York General Incorporation Act of 1811," J.P.E., Dec., 1940.

KETCHUM, Marshall Dana, Univ. of Kentucky, Col. of Com., Lexington, Ky. (1937) **A** Univ. of Kentucky, asso. prof. of econ., T. **B** B.S., 1928, M.S., 1929, Syracuse; Ph.D., 1937, Chicago. **C** The contractual type investment company (pub. as "The fixed investment trust," Jour. of Bus., Univ. of Chicago, Apr., 1937). **D** 9, 7, 11. **E** Text on investment analysis and policy.

‡KEYNES, John Maynard (Lord Keynes of Tilton), Cambridge Univ., Cambridge, England. (1932)

***KEYNES, John Neville,** 6 Harvey Rd., Cambridge, England. (1888)

KIBLER, Thomas Latimer, Ohio State Univ., Col. of Com. and Admin., Columbus, Ohio. (1911)

KIDNER, Frank LeRoy, Univ. of California, Dept. of Econ., Berkeley, Calif. (1937)

KIEFFER, Dale C., American Potash Inst., 1155 16th St., N.W., Washington, D.C. (1942)

KIEKHOFER, William Henry, 1919 Arlington Pl., Madison, Wis. (1914) **A** Univ. of Wisconsin, prof. of econ., TRAB; ed., Century studies in economics. **B** B.A., 1904, LL.D., 1936, North Central Col.; Ph.D., 1913, Wisconsin. **D** 1, 8, 7. **E** Economic theory and finance. **F** Economic principles, problems, and policies (Appleton-Century, 2nd ed., 1941). **G** WSE.

KIERNAN, Charles James, 14 Fairbanks St., Hillside, N.J. (1933) **A** St. John's Univ., School of Com., prof. of econ., T. **B** B.C.S., 1928, M.C.S., 1930, New York; M.S., 1934, Columbia. **D** 11, 4, 13. **E** Economics of candy industry in U.S.

KIFER, Russell Stanley, U. S. Dept. of Agric., Bur. of Agric. Econ., Washington, D.C. (1924)

KILDUFF, (Mrs.) Vera Reynolds, Webber Col., Babson Park, Fla. (1939) **A** Webber Col., asso. prof., T. **B** B.A., 1934, M.A., 1935, Saskatchewan; Ph.D., 1938, Brown. **C** An analysis of the development of Canadian-American trade. **D** 8, 17, 12. **E** Foreign market for citrus fruit. **F** "Economic factors in the development of Canadian-American trade," S.E.J., Oct., 1941.

KILLINGSWORTH, Charles Clinton, Johns Hopkins Univ., Dept. of Polit. Econ., Baltimore, Md. (1941) **A Johns Hopkins Univ., instr., TR. B** A.B., 1938, Southwest Missouri State Teachers Col.; M.A., 1939, Oklahoma A. and M. Col.; grad. work, Wisconsin. **D** 17, 18, 10. **E** State labor relations acts (doctoral dissertation); index and guide to the use of trade union publications. **F** "Employer freedom of speech and the NLRB," Wis. Law Rev., Mar., 1941.

KILLOUGH, Hugh B., 22 Belair Rd., Wellesley, Mass. (1941) **A** U. S. Bur. of Labor Statis., spec. ind. consultant; Brown Univ., prof. of econ., T. **B** B.S., 1916, Texas A. and M. Col.; M.S., 1920, Wisconsin; Ph.D., 1925, Columbia. **C** Some factors which affect the price of oats (pub. as What makes the price of oats, U. S. Dept. of Agric., 1925). **D** 8, 12, 11. **E** Book on reconstruction economics. **F** Raw materials of industrialism (with L. W. Killough) (Crowell, 1929); joint author, The economics of marketing (Harper, 1933); International trade (McGraw-Hill, 1938). **G** S.

KILLOUGH, Lucy Winsor (Mrs. Hugh B.), 22 Belair Rd., Wellesley, Mass. (1921) **A** Wellesley Col., asso. prof., T. **B** A.B., 1919, Vassar; A.M., 1921, Stanford; Ph.D., 1925, Columbia. **C** The manufacturing of tobacco products in New York and its environs (Reg. Plan of N. Y. and Its Environs). **D** 6, 16, 4. **E** Institutional factors in industrial location. **F** Raw materials of industrialism (with H. B. Killough) (Crowell, 1929); "Tax

exempt industries in Rhode Island," Nat. Tax Asso. Bul., Nov., 1940; "Tax exemptions of educational, philanthropic, and religious organizations," Tax Policy League Symposium, 1939. **G** S.

KIMBALL, Milo, Ohio State Univ., Columbus, Ohio. (1921) **A** Ohio State Univ., asst. prof., T. **B** B.S., 1916, Ohio Northern; B.B.A., 1921, M.B.A., 1926, Boston Univ. **D** 7, 9, 1. **F** Principles of corporate finance (Longmans, Green, 1939).

KIMBERLAND, Kendall Graham, 25 Lincoln St., Glen Ridge, N.J. (1935) **A Amer. Friends Serv. Com., delegate to unoccupied France, relief work;** Chase Nat. Bank, clerk, RB. **B** A.B., 1929, A.M., 1935, Columbia. **D** 7, 8, 17.

KIMMEL, Lewis Henry, 722 Jackson Pl., N.W., Washington, D.C. (1941) **A** Brookings Inst., member of staff, R. **B** A.B., 1921, Pennsylvania State Col.; M.B.A., 1927, Ph.D., 1934, Pennsylvania. **C** The taxation of banks (Nat. Ind. Conf. Bd., 1934). **D** 6, 7, 9. **E** Financing public works. **F** Cost of government in the United States (Nat. Ind. Conf. Bd., 1930-38); Fiscal and administrative survey of New Orleans (New Orleans Tax Rev. Com., 1933); Availability of bank credit, 1933-38 (Nat. Ind. Conf. Bd., 1939).

KINCAID, Elbert Alvis, Box 1575, Univ. Sta., Charlottesville, Va. (1922) **A** Univ. of Virginia, McIntire School of Com., prof. of fin.; Fed Res. Bank of Richmond, consulting econ.; TRAB. **B** A.B., 1910, Washington State Col.; A.M., 1911, Harvard; Ph.D., 1922, California. **C** Federal land grants to the Central Pacific Railroad. **D** 7, 9, 5. **G** WSE.

KINDLEBERGER, Charles Poor, Box 96, R. D. 2, Alexandria, Va. (1935) **A** Bd. of Gov., Fed. Res. System, econ., R. **B** A.B., 1932, Pennsylvania; A.M., 1934, Ph.D., 1937, Columbia. **C** International short-term capital movements (Columbia Univ. Press, 1937). **D** 8, 1, 7. **G** W.

KING, Alan Forrest, 600 Winston Ave., San Marino, Calif. (1935) **A** Vultee Aircraft, in charge of econ. res., B. **B** B.S.E., 1921, M.S., 1926, Michigan. **D** 4, 12, 5. **E** History of the used car problem (doctoral dissertation).

KING, Harold Joseph, 1835 K St., N.W., Washington, D.C. (1938) **A U. S. Navy Dept., ind. engr., R. B** B.S. in B.A., 1935, M.A., 1936, Nebraska; Ph.D., 1941, Pittsburgh. **C** An economic analysis of scheduled airline transportation in the United States. **D** 14, 7, 4. **F** "Airline passenger fares," Jour. of Air Law and Com., July, 1941; "The ratemaking function of the Civil Aeronautics Board," Amer. Jour. of Econ. and Soc., Jan., 1942.

KING, Robert Callen, U. S. Tariff Com., Washington, D.C. (1937)

KING, Willford Isbell, 28 Shore Rd., Douglaston, N.Y. (1911) **A** New York Univ., prof. of econ., T. **B** A.B., 1905, LL.D., 1931, Nebraska; M.A., 1910, Ph.D., 1913, Wisconsin. **C** The valuation of urban realty for purposes of taxation (Univ. of Wisconsin Bul.). **D** 1, 17, 7. **E** Classification and balancing of all receipts and payments in the U.S. by industries. **F** The national income and its purchasing power (Nat. Bur. of Econ. Res., 1930); Index numbers elucidated (Longmans, Green, 1930); The causes of economic fluctuations (Ronald Press, 1940). **G** WE.

KINMONTH, J(esse) Lyle, Asbury Park Press, Asbury Park, N.J. (1913) **A** Asbury Park Press, editor, publisher. **B** Ph.B., 1895, Iowa. **D** 1.

***KINOSITA, Yetaro,** No. 154, Imasatocho, Shirokane, Shibaku, Tokyo, Japan. (1904)

KINSELLA, Thomas J., 2103 Suitland Ter., S.E., Fairfax Village, Washington, D.C. (1932) **A OPA, prin. econ., A;** State Col. for Teachers, Albany, asst. prof. of com., T. **B** B.S., 1930, State Col. for Teachers, Albany; M.A., 1931, Ph.D., 1938, Clark Univ., Worcester. **C** Albany as a world port. **D** 3, 10, 16. **E** Dynamic cost trends in the heavy machinery field and the extent of cost absorption with expanding production. **F** "Toward Latin American economic understanding," N. Y. State Educa., Dec., 1941.

KINSMAN, Delos Oscar, 4426 Klingle St., Washington, D.C. (1926) **A** American Univ., prof. emeritus. **B** B.L., 1896, Ph.D., 1900, Wisconsin; M.A., 1899, Butler. **C** The income tax in the commonwealths of the United States. **D** 6, 7, 3. **F** Our economic world (Crowell, 1937); Economics, or the science of business (Ginn, 1927); Essentials of civics (Col. Press, 1919). **G** WSI.

KINZIE, George Reinhold, 4409 Maple Ave., Bethesda, Md. (1941) **A WPB, sr. ind. anal., A;** R. **B** B.B.A., 1931, Florida; M.B.A., 1935, Harvard. **D** 13, 4. **F** "The part played by steel scrap," The Annalist, Apr. 11, 1940.

KIRBY, Richard Morecraft, 922 Grove Ave., Fredericksburg, Va. (1940) **A** Mary Washington Col., asso. prof., T. **B** A.B., 1932, Berea; A.M., 1933, Ohio State; A.M., 1942, Harvard. **D** 17, 1, 4. **E** Wage policy of United Mine Workers (doctoral dissertation).

KIRK, Lester King, 640 Temple Ave., Detroit, Mich. (1927) **A** Standard Acc. Ins. Co., vice-pres., treas., B. **B** B.A., 1922, Carleton. **D** 9, 5, 4.

KIRK, William, 705 Indian Hill Blvd., Claremont, Calif. (1903) **A** Pomona Col., TR. **B** A.B., 1902, Ph.D., 1905, Johns Hopkins. **C** National labor federations in the United States. **D** 17, 20, 18. **E** Preliterates of the Pacific. **G** WS.

KIRSHEN, Himy Benjamin, Univ. of Maine, Orono, Me. (1939) **A** Univ. of Maine, Dept. of Econ., head, prof., TA. **B** B.S., 1926, Whitman; M.A. 1926, Columbia; Ph.D., 1937, Wisconsin. **C** The commerce clause, the Supreme Court, and nationalism. **D** 10, 9, 17. **E** Text in business law. **F** Essays in legal economics (Univ. of Maine, 1932). **G** S.

KIRSHMAN, John Emmett, Univ. of Nebraska, Lincoln, Neb. (1918) **A** Univ. of Nebraska, Economics Dept., chmn., prof., TA. **B** Ph.B., 1904, Central Wesleyan; Ph.M., 1908, Syracuse; Ph.D., 1918, Harvard. **C** Taxation of banks in New England. **D** 9, 5. **E** Book on investment. **F** Principles of investment (McGraw-Hill, 1933). **G** WS.

KJELLSTROM, Erik Torston Hjalmar, Rutgers Univ., New Brunswick, N.J. (1938)

KLARAGARD, Sever, 1118 St. Olaf Ave., Northfield, Minn. (1921) **A** St. Olaf Col., prof. of econ., T. **B** A.B., 1917, St. Olaf; Ph.D., 1923, Illinois. **C** The farmers' marketing movement in the spring wheat district. **D** 1, 11, 12. **G** S.

KLEENE, Gustav Adolph, 689 Asylum Ave., Hartford, Conn. (1898) **A** Trinity Col., prof. emeritus. **B** A.B., 1891, Michigan; Ph.D., 1896, Pennsylvania. **C** History of the ten-hour day. **D** 1, 3, 5. **F** Profit and wages (Macmillan, 1916); "Rate of return to capital," A.E.R., Mar., 1935. **G** WS.

KLEIN, Joseph Jerome, 60 E. 42nd St., New York City. (1909) **A** Klein, Hinds, and Finke, C.P.A.'s, partner; Klein, Finke, and Austin, attorneys, partner. **B** B.S., 1906, City of New York; M.A., 1909, Ph.D., 1910, New York; LL.B., 1923, Fordham; C.P.A., 1911, New York. **C** Development of mercantile instruments of credit in the United States (Jour. of Accountancy, 1911-12). **D** 6, 4. **F** Federal income and taxation (Wiley, 1929-33); Elements of accounting (Appleton, 1914); Bookkeeping and accounting (Appleton, 1917). **G** W.

KLEIN, Julius, 2141 Wyoming Ave., N.W., Washington, D.C. (1911) **A** Klein and Saks, partner, B. **B** B.L., 1907; M.L., 1908, LL.D., 1932, California; M.A., Ph.D., 1913, Harvard; LL.D., 1931, Lawrence. **C** The mesta: a study in Spanish economic history (Harvard Econ. Ser.). **D** 8, 12, 2. **E** Economic relations between Brazil and the U.S. **G** WSI.

KLEIN, Philip, 122 E. 22nd St., New York City. (1936) **A** N. Y. School of Soc. Work, Columbia Univ., prof., T. **B** B.A., 1911, City of New York; Ph.D., 1918, Columbia. **C** Prison methods of New York State (Columbia Univ. Studies). **D** 18, 17. **E** Research director, final report, White House Conf. on Children in a Democracy (in press). **F** Social study of Pittsburgh (Columbia Univ. Press, 1938); The burden of unemployment (Russell Sage Found., 1922); "Social work," "Social case work," Ency. of Soc. Sci. (1930). **G** WS.

KLINE, George W., 600 N. Church St., Fayette, Mo. (1939)

KLINE, Henry Blue, Norris, Tenn. (1942) **A** TVA, asso. econ., R. **B** B.A., 1928, M.A., 1929,

Vanderbilt. D 16, 14, 10. E Burden of freight rates on development of South and West; interregional balance of trade. F Freight rates—the interregional tariff issue (Vanderbilt Univ. Press, 1942); Economic effects of regionalized freight rates (TVA, 1942); "William Remington: a study in individualism," in I'll take my stand (Harper, 1930).

KLINGENSTEIN, Joseph, 120 Broadway, New York City. (1936)

KNAF, Henry George, 4 Irving Pl., New York City. (1939) A Consolidated Edison Co. of N.Y., div. engr., R. B El. Eng., 1922, Poly. Inst. of Munich. D 14, 3, 19. E Utility costs and rates. F "Retail use of electricity in Europe," Sept., 1936, "Analysis and forecast of residential sales and the effect of adjusting for billing periods," Feb., 1936, Edison Elec. Inst. Bul.

KNAPP, Joseph Grant, Farm Credit Admin., Co-op. Res. and Serv. Div., Washington, D.C. (1927) A Farm Credit Admin., prin. agric. econ., R. B B.S., 1922, M.A., 1923, Nebraska; Ph.D., 1929, Stanford. C The pool marketing of hard winter wheat (pub. in revised form as The hard winter wheat pools, Univ. of Chicago Press, 1933). D 19, 15, 12. E Analyses of farmers' co-operative purchasing associations. F Co-operative marketing of livestock (with E. G. Nourse) (Brookings, 1931); Co-operative farm supply purchasing in the British Isles (Farm Credit Admin., 1939). G S.

KNAPPEN, Laurence Stevens, 2611 S. Lynn St., Arlington, Va. (1934) **A WPB, Plumb. and Heat. Br., asst. chief, A.** B B.A., 1920, Wisconsin; M.A., 1933, Rutgers; Ph.D., 1940, Columbia. C Revenue bonds and the investor (Prentice-Hall). D 9, 6, 10. F Co-author, Banking and the New Deal (Amer. Inst. of Bank., 1933). G S.

KNAUTH, Oswald Whitman, 27 W. 67th St., New York City. (1911) **A WPB, Statis. Div., asst. dir., R;** Asso. Dry Goods Corp., pres., B. B Ph.D., 1913, Columbia. D 3, 10, 5. G W.

KNEELAND, Hildegarde, 1578 Colonial Ter., Arlington, Va. (1940) **A OPA., Res. Div., Consumer Income and Demand Br., chief, R;** U. S. Dept. of Agric., Bur. of Agric. Econ., prin. econ., R. B A.B., 1911, Vassar; Ph.D., 1930, Brookings. D 19, 12. E Distribution of consumer income; consumer expenditures and savings. F Consumer incomes in the United States (Nat. Res. Com., 1938); Consumer expenditures in the United States (Nat. Res. Com., 1939); Family expenditures in the United States (Nat. Res. Plan. Bd., 1941). G S.

KNIGHT, Bruce Winton, 4 Tyler Rd., Hanover, N.H. (1939) A Dartmouth Col., prof. of econ., T. B B.S., 1921, Utah; M.A., 1923, Michigan. D 10, 5, 1. F Economics (with N. L. Smith) (Ronald Press, 1930); How to run a war (Knopf, 1936); Economic principles in practice (Farrar and Rinehart, rev. 1942). G W.

KNIGHT, Earl Lawrence, Lehigh Univ., Bethlehem, Pa. (1937) A Lehigh Univ., Col. of Bus. Admin., asst. prof. of econ., T. B B.S., 1928, Temple; M.A., 1932, Ph.D., 1940, Ohio State. C Convertible securities. D 9, 7, 6.

KNIGHT, Frank Hyneman, Univ. of Chicago, Soc. Sci. Bldg., Chicago, Ill. (1915) A Univ. of Chicago, prof. of econ., T. B Ph.B., 1911, Milligan Col.; B.S., M.A., 1913, Tennessee; Ph.D., 1916, Cornell. C Risk, uncertainty, and profit (Houghton Mifflin, 1921; London School of Econ., 1933, ff.). D 1, 3, 2. F Ethics of competition (Allyn and Unwin, and Harper, 1935). G WSE.

KNIGHT, M(elvin) Moses, Univ. of California, Dept. of Econ., Berkeley, Calif. (1924) A Univ. of California, prof., T. B A.B., 1913, Texas Christian; Ph.D., 1917, Clark. C Ward's gynaecocentric theory (Pt. I, Taboo and genetics, Moffat, Yard and Co., N.Y.C., 1920). D 3, 2, 8. E Irreversible change in economic systems; end of liberal-imperial economic expansion. F "Water and empire in North Africa," Q.J.E., Nov., 1928; The Americans in Santo Domingo (Vanguard Press, 1928); Morocco as a French economic venture (Appleton-Century, 1937). G WSE.

KNIPE, James Launcelot, 1501 Emerson St., N.W., Washington, D.C. (1937) **A U. S. Navy, lieut.;** Douglas T. Johnston and Co., N.Y.C., vice-pres., A. B Ph.B., 1926, M.A., 1934, Ph.D, 1940, Yale. C Significance of the American capital market. D 8, 7, 9.

KNOLLMEYER, Lewis E., 301 N. Murray St., Madison, Wis. (1942)

KNOX, Frank Albert, Queen's Univ., Kingston, Ont., Canada. (1926) A Queen's Univ., prof., T. B B.A., 1923, Queen's. D 8, 7, 5. G S.

KOBROCK, John Peter, 230 Harvard Circle, Newtonville, Mass. (1940) A New England Tel. and Tel. Co., gen. plant engr. sup., AB. B B.S., 1911, Missouri. D 14, 9, 5.

KOCH, Albert R., 5400 Fieldston Rd., Apt., 62C, Riverdale, N.Y. (1941)

KOENIG, William Habekotte, 684 Riverside Dr., Apt. 5A, New York City. (1930)

KOGEL, George, 1916 R St., N.W., Washington, D.C. (1938) **A OPA, Econ. Anal. Sec., Bldg. Materials Br., chief, RA.** B B.S., 1936, M.S., 1937, Columbia. D 11, 9, 1. E Corporate reorganization and the financial plan (doctoral dissertation). F Co-author, Economic institutions (Brooklyn Col. Press, 1941), Modern economics (Thomas Nelson and Sons, 1940).

KOHLER, E. L., 1138 21st St., Wilmette, Ill. (1939)

KOHLERMAN, James Harold, 2 Horatio St., New York City. (1937)

KOHNEN, George Bernard, St. Mary's Univ., San Antonio, Tex. (1942) A St. Mary's Univ., prof., T. B B.S. in Ed., 1928, Dayton; M.A., 1933, Catholic. D 9, 7, 6. E Policies of the SEC regarding security issues by public utility enterprises (doctoral dissertation, Northwestern).

KOLBE, Frank Frederick, 307 N. Michigan Ave., Chicago, Ill. (1941) A United Elec. Coal Cos., pres., B. B A.B., 1914, M.A., 1917, Michigan. D 8, 10, 9. G W.

KOLCHIN, Morris, 200 W. 15th St., New York City. (1932)

KOLLER, E. Fred, Univ. of Minnesota, Univ. Farm, St. Paul, Minn. (1942) A Univ. of Minnesota, asso. prof. of agric. econ., TR. B B.A., 1929, Augustana Col., Sioux Falls; M.A., 1933, Ph.D., 1938, Minnesota. C A study of the economic factors affecting the efficiency of Minnesota creameries with suggestions for readjustments of the industry. D 15, 12, 9. E Credit practices and costs of 85 Minn. co-operative oil associations; impact of war on Minn. dairy industry. F Organization and operation of Minnesota co-operative creameries (Bul. 333, 1938), Trends in Minnesota dairy industry (Bul. 346, 1940), Organization and operations of Minnesota co-operative oil associations (Bul. 351, 1941) (Minn. Exp. Sta.).

KOONTZ, Harold D., 32 Payne St., Hamilton, N.Y. (1933) **A OPA, Machinery Br., sr. bus. econ., A;** Colgate Univ., asst. prof. of econ., T. B A.B., 1930, Oberlin; M.B.A. 1931, Northwestern; Ph.D., 1935, Yale. C American steam railroad depreciation under the Interstate Commerce Act. D 14, 10, 11. E Economic evolution in the aircraft industry; regulation of the private highway carrier. F Government control of business (Houghton Mifflin, 1941); Men, groups, and the community (with T. H. Robinson and others) (Harper, 1940). G SE.

KOOPMANS, Tjalling, U. S. Dept. of Com., Combined Ship. Adjust. Bd., Washington, D.C. (1941) **A Combined Ship. Adjust. Bd., R;** Penn Mutual Life Ins. Co., R. B Ph.D., 1936, Univ. of Leiden, Netherlands. C Linear regression analysis of economic time series (Haarlem, 1937). D 4, 5, 14. F Tanker freight rates and tankship building (Haarlem, 1939); "The logic of econometric business cycle research," J.P.E., Apr., 1941; "The dynamics of inflation," Rev. of Econ. Statis., May, 1942.

KOREY, Edward L., 864 Carroll St., Brooklyn, N.Y. (1940)

KOTTKE, Frank Joseph, Rensselaer Poly. Inst., Troy, N.Y. (1940) A Rensselaer Poly. Inst., instr., T. B B.A., 1937, M.A., 1938, Northwestern. D 10, 11, 13. E Interrelation of technological change and organization of the electrical apparatus industries.

KOUPERMAN, A. Boris, 130 N. Wells St., Room 639, Chicago, Ill. (1935)

KOZELKA, Richard Louis, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1923)

A Univ. of Minnesota, asso. prof. of econ., TR. B B.A., 1921, Beloit; M.A., 1926, Chicago; Ph.D., 1931, Minnesota. C Business fluctuations in the Northwest (Univ. of Minnesota, Employ. Stabil. Res. Inst., Bul. Ser., 1933). D 4, 12, 7. E Cost of living in the Twin Cities; business fluctuations in the Northwest; St. Paul labor market. F "The representative price," Jour. of Amer. Statis. Asso., 1933; Industrial trends in Minnesota (Minn. Res. Com., 1939); "Cost of living and national defense," Fin. and Invest. Rev., July, 1941. G S.

KOZLIK, Adolf, 20 Nassau St., Princeton, N.J. (1942) A **Princeton Univ., res. asso., R;** Iowa State Col., asst. prof., R. B Dr. jur., 1935, Dr. rer. pol., 1938, Univ. of Vienna. C History of the theory of imputation. D 3, 17, 4. E Economic distress areas in Europe; democracy in trade unions; levels of living in Europe. F Research handbook for interrelated demand (Iowa State Col. Press, 1942); "Shape of total revenue curves," J.F.E., 1941; "Monopol oder monopolistische Konkurrenz," Zeitschrift für schweizerische Statistik und Volkswirtschaft, 1942.

KRAMER, Leon, 19 W. 8th St., New York City. (1941)

KRANOLD, Herman, Talladega Col., Talladega, Ala. (1937) A Talladega Col., prof. of econ., TR. D 10, 4, 1. E International distribution of raw materials after the present war; doctrine of full employment; apriorism and empiricism in economic research. F The international distribution of raw materials (Harper, 1939); Erste Bekanntschaft mit dem Sozialismus (Goerlitz, Soz. Partei, 1928); Wohlfahrtspflege auf dem Lande (Berlin, Arbeiterwohlfahrt, 1929). G S.

KRAUSS, Daniel Theodore, 603 E Cecil St., Springfield, Ohio. (1935) A Wittenberg Col., Spec. School, dir., prof. of bus. admin., TA; ed., Ohio Bus. Teacher. B B.S., 1917, Knox; J.D., 1926, Chicago. D 10, 4, 9. E Technique of social reform.

KRAVIS, Irving Bernard, 2840 W. Stiles St., Philadelphia, Pa. (1941) A Whitman Col., instr. in econ., T. B B.S. Ed., 1938, A.M., 1939, Pennsylvania. D 1, 17, 7. E Laws of return (doctoral dissertation).

KREIDER, Carl, Goshen Col., Goshen, Ind. (1941) A Goshen Col., asst. prof. of econ., T. B B.A., 1936, Goshen; M.A., 1938, Ph.D., 1941, Princeton. C The Anglo-American trade agreement (Princeton Univ. Press, 1942). D 8, 15, 2. E Postwar economic adjustments, especially Europe. F "Democratic processes in the trade agreements program," Amer. Polit. Sci. Rev., Apr., 1940; "The effect of trade agreements on third countries," A.E.R., Dec., 1941.

KREPS, Theodore John, Grad. School of Bus., Stanford University, Calif. (1925) A Stanford Univ., prof. of bus. econ., T. B A.B., 1920, Univ. of Colorado; A.M., 1924, Ph.D., 1928, Harvard. C Some chapters in the economic history of the sulfuric acid and alkali industries in the United States. D 10, 11, 19. E Economics of the alkali industry; text on problems of business and government. F Economics of the sulphuric acid industry (Stanford Univ. Press, 1938), Measurement of the social performance of business (TNEC Mono. 7, 1941); "Some price problems," in Economic problems in a changing world (Farrar and Rinehardt, 1939). G SE.

KRUEGER, Maynard C., Univ. of Chicago, Chicago, Ill. (1940) A Univ. of Chicago, asst. prof. of econ., **acting chmn. of soc. sci. staff.,** T. B A.B., 1926, A.M., 1927, Missouri. D 3, 17, 1. G S

KRUESI, Paul John, Southern Ferro Alloys Co, Chattanooga, Tenn. (1934) A Amer. Lava Corp., Southern Ferro Alloys Co., pres., B. B D.Sc. (Hon.), 1936, Union, Schenectady. D 11, 3, 9. G W.

KUBE, Harold Deming, 2831 Beechwood Circle, Arlington, Va. (1940) A **WPB, prin. ind. econ., R.** B B.S., 1932, Nebraska; M.B.A., 1934, Harvard. D 13, 4, 3. F Location of manufacturing wage earners —1899 to 1939 (Dept. of Com., Dept. of Agric., 1942).

KUHNS, William Rodney, Amer. Bankers Asso., 22 E. 40th St., New York City. (1934) A Banking, editor, B. B B.Litt., 1921, Columbia. D 3, 1, 8. E Banks in the war; cost of selling war savings bonds; use of radio and motion pictures in advertising. G W.

KUNST, Edwin J., 926 E. 61st St., Chicago, Ill. (1940) A Central Y.M.C.A. Col., asso. prof. of econ., T. B Ph.B., 1925, Chicago. D 17, 18, 19. E Variations in individual work performance under normal working conditions (doctoral dissertation).

KUSIK, John Edward, 97 Morningside Rd., Verona, N.J. (1934) A Gen. Elec. Co., asst. gen. mgr., A. B M.S., 1925, Virginia. D 11, 8, 7.

KUZNETS, Simon S., Nat. Bur. of Econ. Res., 1819 Broadway, New York City. (1933) A **WPB, econ.;** Univ. of Pennsylvania, prof., T; Nat. Bur. of Econ. Res., staff, R. B B.S., 1923, M.A., 1924, Ph.D., 1926, Columbia. C Cyclical fluctuations in retail and wholesale trade (Adelphi Press, New York City, 1926). D 5, 1, 19. E National income; capital formation. F Secular movements (Houghton Mifflin, 1930); Seasonal variations (1933), National income and its composition (1941) (Nat. Bur. of Econ. Res.). G WS.

KYRK, Hazel, 5717 Kimbark Ave., Chicago, Ill. (1920) A Univ. of Chicago, prof., T. B Ph.B., 1910, Ph.D., 1920, Chicago. C The consumer's guidance of economic activity (pub. as A theory of consumption, Houghton Mifflin, 1923). D 19. F Economic problems of the family (Harper, 1933); joint author, Food buying and our markets (M. Barrows, 1937). G SE.

LABADIE, Juan, Box 113, Aguadilla, P.R. (1941) A Univ. of Puerto Rico, Col. of Agric. and Mech. Arts, asst. prof. of econ., T. B B.S. in Agric., 1937, Puerto Rico; M.S. in Agric., 1941, Cornell. D 15, 4, 12.

LABASTILLE, Ferdinand Meyer, 111 Haddon Pl., Upper Montclair, N.J. (1936) A New Jersey State Teachers Col., Dept. of Latin Amer. Studies, head, T. B A.B., 1918, Illinois; A.M., 1932, Columbia. D 2, 8, 16. E Economic institutions of Latin America. F "Credit for export of automobiles," A.E.R., June, 1932. G E.

LABOVITZ, Israel M., 4707 Hunt Ave., Chevy Chase, Md. (1932) A U. S. Bur. of the Budget, Fiscal Div., prin. fiscal anal., R. B B.A., 1928, Minnesota. D 6, 10. E Fiscal policy in Illinois state finance. F "Education," in State-local fiscal relations in Illinois (Univ. of Chicago Press, 1941); "Uniformity in Illinois property tax," Ill. State Bar Jour., Mar., 1941; The Illinois revenue system (pamph., Ill. State Tax Com., 1936).

LACHMANN, Karl Eduard, Dept. of the Interior, Office of the Solicitor, Washington, D.C. (1938) A U. S. Dept. of the Interior, asst. solicitor, RA. B Bachelier en Droit, 1934, Docteur en Droit, 1936, Univ. of Grenoble, France; Licencié en Droit, 1935, Univ. of Paris; J.D., 1938, Chicago. C De la transformation de la société anonyme moderne. D 3, 8, 10. F "Le retour a la responsabilité personnelle dans le droit commercial allemand," Bul. de la Société de Legislation Comparée, July, 1937; "A defense of nonmanaging directors," Chicago Law Rev., June, 1938.

LAGERQUIST, Walter Edwards, 111 Devonshire St., Boston, Mass. (1910) A Franklin Manage. Co., pres. B A.B., 1905, M.A., 1906, Ph.D., 1911, Yale. D 9, 14. F Investment analysis (Macmillan, 1919); Public utility finance (A. W. Shaw, 1926); Balancing and hedging and investment plan (Ronald Press, 1941). G WSIE.

LAING, Lemuel L., 909 Sybil St., Ann Arbor, Mich. (1934) A Univ. of Michigan, asst. prof. B M.B.A., 1930, Michigan; C.P.A., 1934, Michigan. D 4, 6, 11. E Accounting systems. F Problems and practice sets for essentials of accounting (with W. A. Paton and R. P. Briggs) (Macmillan, 1938).

LAIRD, Noel Potter, Franklin and Marshall Col., Lancaster, Pa. (1927) A Franklin and Marshall Col., asso. prof. of econ. and bus. admin., T. B B.B.A., 1922, M.B.A., 1929, Boston Univ; B.S., 1923, Temple; A.M., 1927, Pennsylvania; Ed.D., 1934, Rutgers. C Social and economic background of college teachers of marketing. D 12, 1, 3.

LAKE, Wilfred Stanley, 59 Hinckley Rd., Waban, Mass. (1928) A Northeastern Univ., Col. of Lib. Arts., dean, prof. of econ., TA. B A.B., 1924, Hiram; A.M., 1928, Ph.D., 1932, Harvard. C

History of banking regulation in Massachusetts, 1784-1860. D 2, 7, 4. E History of banking regulation in Massachusetts. G W.

LAMB, George Anthony, Wooten Dr., Lee Blvd. Hgts., Falls Church, Va. (1934) A Dept. of the Interior, Bituminous Coal Div., Econ. Br., chief, RA. B A.B., 1929, Portland; M.S. (Transp.), 1932, Yale. D 10, 13, 14. E Operating capacity of bituminous coal industry; employment status in bituminous coal during wartime; analysis of bituminous coal distribution and prices during first year of minimum price regulation. F Contributor, Economic survey of the Bituminous Coal Division under free competition and code regulation (NRA, 1936); Distribution of bituminous coal during 1937 (Dept. of the Interior. 1940). G S.

LAMKE, Edwin Ashley, TVA, Budget Office, Knoxville, Tenn. (1930) A TVA, asst. chief budget officer, A. B A.B., 1928, M.A., 1929, Washington Univ. D 10, 3, 6. F Co-author, Closed and distressed banks (Brookings, 1934); "Planning under the TVA," Plan Age, Dec., 1935.

LAMONT, Thomas W., 23 Wall St., New York City. (1918)

LANDAUER, Carl, 1317 Arch St., Berkeley, Calif. (1935) A Univ. of California, prof. of econ., TR. B Abitur, 1909, Gymnasium, Munich; Ph.D., 1913, Univ. of Heidelberg. C Mercantilist and Physiocrat theories of the role of luxury in economic life. D 3, 1, 8. E History of modern socialism; theory of national economic planning. F Grundprobleme der funktionellen Verteilung des wirtschaftlichen Wertes (Jena, 1923); Planwirtschaft und Verkehrswirtschaft (Munich, 1931); "A break in Keynes's theory of interest," A.E.R., June, 1937. G S.

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LINDHOLM, Richard Wadsworth, F.E. Box 119, College Station, Tex. (1940) A Texas A. and M. Col., instr., T. B B.A., 1936, Gustavus Adolphus Col.; M.A., 1938, Minnesota; Ph.D., 1942, Texas. C The franchise as the basis for the taxation of corporations. D 6, 8, 11. E Status and development of taxation of petroleum industry.

LINDMAN, Bertram Herman, Univ. Club, Washington, D.C. (1934) A **U. S. Navy, lieut.;** Nat. Highway Users Conf. engr. econ., R. B B.S., 1930, Univ. of Washington; M.S., 1933, American. D 14, 6, 16. F Effect of weather and heavy vehicles on highway (Nat. Highway Users Conf., 1941); Highway finance (Inst. of Traffic Engrs., 1940); Highway safety (State of Wash., 1939).

***LINDSAY, Samuel McCune,** Columbia Univ., Fayerweather Hall, New York City. (1894) A Columbia Univ., prof. emeritus. B Ph.B., 1889, LL.D., 1909, Pennsylvania; Ph.D., 1892, Univ. of Halle, Germany; LL.D., 1925, San Marcos, Peru. C Preisbewegung der Edelmetalle (Jena, 1893). D 17, 18, 2. E Legislative functions of the International Labor Organization. F Financial administration of Great Britain (with W. W. and W. F. Willoughby) (Appleton, 1917); chapter on social insurance, in Democracy in reconstruction (Houghton Mifflin, 1919); Economic aspects of emergency housing legislation in New York (Real Estate Bd., Law Com., N.Y.C. rev., 1924). G WIE.

LINERODE, Arthur Ayres, 22390 Edgecliff Dr., Euclid, Ohio. (1929)

LINK, Robert Grant, H. Q. and H. Q. Det., 3nd Bn., 306 Inf., A.P.O. 77, Ft. Jackson, S.C. (1942) A **U. S. Army, pvt.** B B.A., 1939, Columbia. D 5, 19, 11.

LINVILLE, Francis Aron, 118 35th St., S.E., Washington, D.C. (1936)

LIPKOWITZ, Irving, 941 Washington Ave., Brooklyn, N.Y. (1939) A Dept. of Justice, Anti-trust Div., econ. expert, R. B B.S., 1934, New York. D 10, 11, 17.

LIPMAN, F. L., Wells Fargo Bank and Union Trust Co., San Francisco, Calif. (1894)

LIPPINCOTT, Harold E., 43 Cedar St., New York City. (1898)

LIPPINCOTT, Isaac, Washington Univ., St. Louis, Mo. (1911) A Washington Univ., prof. of econ. resources, T. B A.B., 1902, Harvard; Ph.D., 1912, Chicago. C History of manufacturers in the Ohio Valley. D 2, 16, 8. E Drugs, spices, vegetable oil. F Economic development of the United States (3rd ed., 1933), Resources and industries of the world (1929), Development of modern world trade (1936) (Appleton-Century). G WSE.

LIPSKY, Daniel, Brooklyn Col., Dept. of Econ., Brooklyn, N.Y. (1942) A Brooklyn Col., instr., T. B A.B., 1931, M.S., 1934, Columbia; C.P.A., 1936, New York. D 4.

LITMAN, Simon, Univ. of Illinois, Urbana, Ill. (1909) A Univ. of Illinois, prof., T. B A.B., 1892, Odessa Commercial Col., Russia; Graduate, 1899, Ecole des Sciences Politiques, France; Dr. Jur. Pub. et Rer. Com., 1901, Univ. of Zurich. C Possibility of a rise in wages and wage fund theories. D 8, 1, 3. E Trade barriers and their role in world economy. F Trade and commerce (La Salle Ext. Univ., 1910); Price control in Great Britain and the United States (Oxford Univ. Press, 1919); Essentials of international trade (Wiley, rev. 1927). G WSE.

LITTERER, Oscar Frederick, Univ. of Nebraska, Lincoln, Neb. (1941)

LIU, Ta-Chung, Chinese Embassy, Washington, D.C. (1941) A Chinese Embassy, asst. to com. coun., R. B B.S., 1936, Chiao Tung Univ., China; M.C.E., 1937, Ph.D., 1940, Cornell. C A study in the theory of planning by the individual firm under dynamic conditions. D 1, 4, 8. E Theory and measurement of national income, cost of living, price and production indices. F "China's foreign exchange problems: a proposed solution," A.E.R., June, 1941.

LIVERMORE, Shaw, 722 S. Royal St., Alexandria, Va. (1935) A **WPB, chief ind. econ., R;** Univ. of Buffalo, prof., T. B A.B., 1922, Dartmouth; M.B.A., 1924, Harvard; Ph.D., 1939, Columbia. C Early American land companies: their influence on corporate development (Commonwealth Fund, 1939). D 11, 10, 9. E Corporation development in pre-Civil War period. F Business organization and public control (with C. S. Tippetts) (Van Nostrand, rev. 1941): "Success of industrial mergers," Q.J.E., 1935. G S.

LIVERNASH, Edward Robert, Tufts Col., Medford, Mass. (1942) A Tufts Col., asst. prof. T. B A.B., 1932, Univ. of Colorado; A.M., 1934, Tufts; Ph.D., 1941, Harvard. C Analysis of job evaluation procedures. D 17, 11, 18. E Job evaluation procedures. F The Colorado labor market and its relation to unemployment compensation (Univ. of Colorado Studies, June, 1937).

LIVINGSTON, Joseph A., Business Week, 330 W. 42nd St., New York City. (1940)

LIWSCHITZ-GARIK, Vladimir, 730 Rugby Rd., Brooklyn, N.Y. (1942)

LLEWELLYN, (Mrs.) Emma Corstvet, 128 Boulder Trail, Bronxville, New York City. (1934) A Sarah Lawrence Col., T. B A.B., 1918, Wisconsin; grad. work, London School of Econ., Yale. D 19, 4.

LOCKE, Henry D., 175 Berkeley St., Boston, Mass. (1935) A Liberty Mut. Ins. Co., res. dir., R. B B.S., 1928, M.A., 1932, Ph.D., 1934, Harvard. C Life insurance finance, 1910-30, with special

reference to policy loans and surrenders. **D** 9, 4, 5.

LOCKHART, Oliver Cary, Greens Farms, Conn. (1904) **A OPA, Primary Metals Sec., Zinc, Lead and Tin Br., chief, A. B** A.B., 1903, A.M., 1905, Indiana; Ph.D., 1917, Cornell. **C** Interbank borrowing in the national system, 1869-1914 (pub. in abridged form in J.P.E., about 1920). **D** 6, 7, 10. **E** Finances of Nationalist China. **F** "Development of Taxation in Ohio," Q.J.E., 1915; "Denominations of currency and gold problem," Q.J.E., 1924.

LOCKLEY, Lawrence Campbell, Curtis Pub. Co., Philadelphia, Pa. (1929) **A** Curtis Pub. Co., Div. of Com. Res., market anal., **R B** B.A., 1920, M.A. (English), 1921, California; A.M. (Econ.), 1929, Ph.D., 1931, Harvard. **C** Vertical co-operative advertising (McGraw-Hill, 1931). **D** 12, 1, 4. **E** Industry and market analyses. **F** "The construction industry in Cedar Rapids," Harvard Bus. Rev., 1939; "Turnover of the refrigerator market," Jour. of Market., 1938; "Marketing mechanical refrigerators during the emergency," Jour. of Market., 1942. **G** W.

LOCKLIN, (David) Philip, 1106 S. Garfield St., Urbana, Ill. (1922) **A Bd. of Invest. and Res., Transp. Act. of 1940, Interterritorial Freight Rate Studies, dir., R;** Univ. of Illinois, prof. of econ., **T. B** A.B., 1920, Middlebury, A.M., 1922, Harvard; Ph.D., 1926, Illinois. **C** Regulation of security issues by the Interstate Commerce Commission (Univ. of Illinois Press). **D** 14, 10, 3. **E** Regulation of transportation agencies. **F** Railroad regulation since 1920 (McGraw-Hill, 1928); Economics of transportation (R. D. Irwin, rev. 1938). **G** WS.

LOEB, Isidor, Washington Univ., St. Louis, Mo. (1892)

LOFT, Jacob, 105 Braemore Gardens, Toronto, Canada. (1940)

LOFTUS, John A., 3333 N. Charles St., Baltimore, Md. (1940) **A OPA, Fuel Div., econ., RA;** Johns Hopkins Univ., asso., **T. B** A.B., 1936, Catholic; Ph.D., 1940, Johns Hopkins. **C** Investment management (Johns Hopkins Press, 1941). **D** 10, 9, 14. **E** Some administrative uses of the corporate device; corporate structures in petroleum industry; theory and techniques of investment.

LOGAN, Harold Amos, 179 Glengrove Ave., W., Toronto, Ont., Canada (1920) **A** Univ. of Toronto, asso. prof., **T. B** B.A., 1912, Acadia; A.B., 1913, Yale; Ph.D., 1925, Chicago. **C** History of trade union organization in Canada (Univ. of Chicago Press). **D** 17, 1, 19. **F** Co-author, A socal approach to economics (Univ. of Toronto Press, 1939); Labor in Canadian-American relations (Ryerson Press, Yale Univ. Press, 1937); Canada's control of labor relations (pamph., Canadian Inst. of Int. Affairs, 1941). **G** S.

LOGAN, Robert Renic, Univ. of Arkansas, Col. of Bus. Admin., Fayetteville, Ark. (1931)

LOMAN, Harry James, Integrity Trust Bldg., 36th and Walnut St., Philadelphia, Pa. (1934) **A Univ. of Pennsylvania, Wharton School, acting dean;** Amer. Inst. of Property and Liability Underwriters, dean, **T.A. B** B.S., 1918, M.A., 1921, Ph.D., 1923, Pennsylvania. **C** Insurance of foreign credits (Prentice-Hall, 1923). **D** 9. **F** Insurance principles and practices (with Robert Riegel) (Prentice-Hall, rev. 1929); Taxation in its relation to life insurance (Appleton-Century, 1927). **G** W.

LONG, Clarence Dickinson, Inst. for Advanced Study, Princeton, N.J. (1939) **A Inst. for Advanced Study, fellow, member, R;** Wesleyan Univ., asso. prof., **T. B** A.B., 1932, A.M., 1933, Washington and Jefferson; A.M., 1935, Ph.D., 1938, Princeton. **C** Building cycles and the theory of investment (Princeton Univ. Press, 1940). **D** 5, 1, 4. **E** History of unemployment in the U. S. **F** "Long cycles in the building industry," Q.J.E., May, 1939; "The concept of unemployment," Q.J.E., Nov., 1942. **G** S.

LONG, Dean, Evansville Col., Evansville, Ind. (1928) **A** Evansville Col., Dept. of Econ. and Soc., head, prof. of econ. and bus. admin., Evening Col., asst. dir., **TA. B** A.B., 1924, Simpson; M.B.A., 1926, Harvard. **D** 1, 7, 12.

LONG, John J., 218 W. 2nd St., Aberdeen, Wash. (1930)

LONG, Louis Jefferson, Allegheny Col., Meadville, Pa. (1940) **A** Allegheny Col., prof. of econ. and comptroller; First Nat. Bank of Meadville, dir. and invest. counsel; **TA. B** B.B.A., 1930, M.A., 1931, Univ. of Colorado; Ph.D., 1936, Illinois. **C** Interstate comity in state income taxation. **D** 9, 1, 6.

LONG, Thomas G., 1436 Chicago Blvd., Detroit, Mich. (1924)

LONGSTREET, Victor Mendell, 5000 Allendale Rd., Friendship Sta., Washington, D.C. (1940) **A Army Air Forces, Materiel Command., capt., R;** Fed. Res. Sys., Bd. of Gov., sr. econ., **R. B** S.B., 1930, Harvard. **D** 7, 10, 6.

LONIGAN, Edna, 4714 Ave. I, Brooklyn, N.Y. (1941) **A Brooklyn Col., instr., T;** Conf. Bd., econ., **R. B** A.B., 1916, Barnard; M.A., 1928, Columbia. **D** 3, 10, 17. **E** Welfare and employment programs of totalitarian countries compared with U. S.; basic theory of employment (doctoral dissertation); critical analysis of self-help economy. **F** "The effect of technological conditions upon the employment of labor," A.E.R., June, 1939; joint author, Report on economic rehabilitation of Puerto Rico (U.S., 1934); Employment of men and women in New York State factories (N. Y. Labor Dept., 1926).

LOOMIS, Robert Herbert, 190 Forest Ave., West Newton, Mass. (1915) **A** Loomis Sayles and Co., pres., **B. B** A.B., 1911, Clark Univ.; A.M., 1918, Harvard. **D** 9, 5, 3.

LORENZ, Max Otto, 3510 Porter St., N.W., Washington, D.C. (1905)

LORENZ, Paul Francis, 2606 Sacramento St., St. Joseph, Mo. (1942) **A** Ill. Bell Tel. Co., accountant, **B. B** M.B.A., 1941, Chicago. **D** 4, 9, 7.

‡**LORIA, Achille,** Universitá de Torino, Turin, Italy. (1926)

LORIG, Arthur Nicholas, Univ. of Washington, Seattle, Wash. (1936) **A** Univ. of Washington, asso. prof. **B** B.A., 1922, Wisconsin; M.A., 1932, Stanford; Ph.D., 1936, Chicago. **C** Classification of income and expenditures for municipalities. **D** 4, 1, 10. **E** Inventory valuation for managerial control purposes. **F** "Determining the current financial position of a city," Acctg. Rev., Mar., 1941; "The capitalization principle and depreciation charges," Proceedings, Pacific Coast Econ. Asso., Dec., 1939.

LORWIN, Lewis L., The Marlyn, 3000 39th St., N.W., Washington, D.C. (1916) **A BEW, consultant, R;** Nat. Res. Plan. Bd., consultant, **R. B** Ph.D., 1912, Columbia. **C** The labor movement in France (Columbia Univ. Press). **D** 8, 17, 3. **E** International public works and economic development; international economic organization after the war. **F** Economic consequences of the Second World War (Random House, 1941); American Federation of Labor (Brookings, 1933); Labor and internationalism (Macmillan, 1929). **G** WSIE.

LOSEE, Gordon Carroll, 4315 N. Pershing Dr., Apt. 1, Arlington, Va. (1937) **A OPA, Rubber Price Br., Drug Sundries Unit, chief, sr. bus. anal., A;** SEC, sr. fin. anal., **R. B** B.S., 1931, M.S., 1936, Ph.D., 1940, Illinois. **C** Reorganization of the electric power into regional systems (Univ. of Illinois, 1940). **D** 14, 10, 9. **E** Book on integration of the electric power industry into regional systems.

LOUCKS, William Negele, Univ. of Pennsylvania, Logan Hall, Philadelphia, Pa. (1925) **A** Univ. of Pennsylvania, prof. of econ., **T. B** A.B., 1922, Heidelberg; M.A., 1923, Ohio State; Ph.D., 1928, Pennsylvania. **C** The Philadelphia Plan of financing second mortgages on homes. **D** 1, 3, 10. **E** Economics of collectivism. **F** The Philadelphia Plan of home financing (Inst. for Res. in Land. Econ. and Pub. Util., 1929); The stabilization of employment in Philadelphia through the long-range planning of municipal improvement projects (Univ. of Pennsylvania Press, 1931); co-author, Comparative economic systems (Harper, 1938).

LOUGH, William H., 670 Pelham Rd., New Rochelle, N.Y. (1908) **A** Tradeways, Inc., pres., **R. B** A.B., 1901, A.M., 1902, Harvard. **D** 12, 19, 9. **F** Business finance (Ronald Press, 1917); High level consumption (McGraw-Hill, 1935); Banking opportunities in South America (U. S. Dept. of Com., 1915). **G** WS.

LOUNSBURY, Raymond Harvey, Russell Sage Col., Troy, N.Y. (1928) **A** Russell Sage Col., prof. of econ., T. **B** B.A., 1925, M.A., 1926, Wesleyan Univ.; Ph.D., 1929, Cornell. **C** Cyclical fluctuations in industrial output, 1921-27. **D** 7, 1, 4. **E** The crisis of 1929. **F** "Two dangers threatening Federal Reserve," South Atlantic Quar., 1926; "Velocity concepts and prices," Q.J.E., 1931; "What is money?" A.E.R., Dec., 1937. **G** S.

LOVASS, Leslie, 1904 Key Blvd., Apt. 451, Arlington, Va. (1936) **A** U. S. Tariff Com., sr. econ., R. **B** A.B., 1932, M.A., 1933, Ph.D., 1935, Ohio State. **C** The economics of Hungarian inflation and reconstruction, 1914-26. **D** 8, 7, 1. **F** Subsidies and bounties to fisheries enterprises by foreign governments (1936), Glues, gelatins and related products (1940), Crab meat (1941), Red-cedar shingles (in press) (U. S. Tariff Com.). **G** S.

LOVE, Joseph LeRoy, 416 Littlefield Bldg., Austin, Tex. 1940) **A** Self-employed, physician. **B** B.S., 1932, Northeast Missouri State Teachers Col.; D.O., 1934, Kirksville Col. of Osteopathy and Surgery; M.A., 1936, Texas. **D** 1, 8, 10. **E** Theory of pricing for government industries.

LOVE, Robert Alonzo, 17 Lexington Ave., New York City. (1925)

LOVEDAY, Alexander, 7 Greenholm, Princeton, N.J. (1941) **A** League of Nations, Econ., Fin. and Transit Dept., dir., R.A. **B** M.A. (Honours), 1911, Cambridge. **D** 8, 5, 7. **E** Economic policies for the postwar settlement. **F** Britain and world trade (Longmans, Green, 1931); contributor, Economic essays in honor of Gustav Cassel (1933); The lessons of monetary experience (1937). **G** I.

LOVEJOY, Frank William, 56 Berkeley St., Rochester, N.Y. (1914) **A** Eastman Kodak Co., chmn. of bd. **B** B.S., 1894, M.I.T.; D.S.(Hon.), Lawrence; LL.D., Colby, St. Lawrence. **G** W.

LOWDEN, Frank Orren, Oregon, Ill. (1901)

LOWE, Adolph, 82 Wadsworth Ter., New York City. (1941) **A** New School for Soc. Res., Grad. Fac. of Polit. and Soc. Sci., prof., TR. **B** Law Finals, 1915, LL.D., 1918, Univ. of Tubingen, Tubingen, Germany. **C** German food control (during the first World War). **D** 1, 5, 8. **E** Economic and social controls in contemporary Germany; investment trends and business cycles. **F** Economics and sociology (Allan-Unwin, London, 1935); The price of liberty (Hogarth Press, London, 1937); Wie ist Konjunkturtheorie überhaupt Moeglich?" Weltwirts.-Archiv., Jena, 1926.

LOWENTHAL, Esther, 76 Crescent St., Northampton, Mass. (1910)

LUBIN, Isador, Bur. of Labor Statis., Washington, D.C. (1932) **A** Bur. of Labor Statis., commissioner. **B** A.B., 1916, LL.D., 1941, Clark, Worcester; Ph.D., 1926, Brookings. **C** Miners' wages and the cost of coal (1924). **D** 17, 1, 4. **F** Government control of prices during the war (with Stella Stewart and Paul Garrett) (1919); British coal dilemma (with Helen Everett) (1927). **G** WS.

LUCAS, Arthur Fletcher, Clark Univ., Worcester, Mass. (1921) **A** Clark Univ., prof. of econ., T. **B** A.B., 1920, Bates; M.A., 1923, Ph.D., 1926, Princeton. **C** Legal minimum wage in Massachusetts (Amer. Acad. of Polit. and Soc. Sci., 1927). **D** 10, 11, 16. **E** Mortgage market; regulatory commission in economic control. **F** Industrial reconstruction and control of competition (Longmans, Green, 1937). **G** S.

LUCAS, John Wayne, Univ. of Omaha, Omaha, Neb. (1935) **A** Univ. of Omaha, Dept. of Bus. Admin., head, prof., TA. **B** B.S. in B.A., 1929, M.B.A., 1935, Ohio State. **D** 12, 4. **E** Cost of performing credit granting functions in mercantile establishments.

LUCE, Kenneth Klingle, Milwaukee Athletic Club, 758 N. Broadway, Milwaukee, Wis. (1941) **A** **U. S. Naval Reserve, ensign;** Squire, Sanders and Dempsey, attorney, B. **B** A.B., 1934, J.D., 1937, Michigan. **D** 8, 2, 5. **F** "Assessment of real property for taxation," June, 1937, "Effect of price level changes in corporate dividend policy," 1937, Univ. of Michigan Law Rev.

LUCE, Robert, 91 Summer St., Waltham, Mass. (1911) **A** Luce's Press Clipping Bur., pres. **B** A.B., 1882, A.M., 1883, Harvard; LL.D., 1923, Bates. **D** 3, 6, 7. **F** Legislative procedure (1922), Legislative assemblies (1924), Legislative problems (1935), Legislative principles (1930) (Houghton Mifflin). **G** WS.

LUDLOW, William Linnaeus, Muskingum Col., New Concord, Ohio. (1941) **A** Muskingum Col., Depts. of Soc. and Gov., head, T. **B** A.B., 1928, A.M., B.D., 1934, Oberlin. **D** 3, 15, 1. **F** The American constitution (Radcliffe Press, New Concord, 1941); The family: a syllabus for the study of marriage and family relations (Radcliffe Press, 1942).

LUKACZER, Moses, 127 Carroll St., S.E., Washington, D.C. (1938)

LUKENS, Samuel Jesse, Simmons Col., 300 The Fenway, Boston, Mass. (1930) **A** Simmons Col., School of Bus. and Prince School of Retailing, dir. prof. of bus. econ., TA. **B** A.B., 1928, M.B.A., 1929, Ph.D., 1940, Michigan. **C** The selection and development of foremen. **D** 17, 11, 12. **G** S.

LUMPKIN, Katharine DuPre, 54 Prospect St., Northampton, Mass. (1932) **A** Inst. of Labor Studies, res. dir., R. **B** A.B., 1915, Brenau; M.A., 1918, Columbia; Ph.D., 1928, Wisconsin. **C** Factors in the commitment of correctional school girls in Wisconsin (materials pub. in Amer. Jour. of Soc., 1931 and 1932). **D** 17, 2, 18. **E** Changing racial attitudes and relations in southern U. S.; history of industrial and farm labor in the South. **F** The family: a study of member roles (Univ. of North Carolina Press, 1933); co-author, Child workers in America (Robert M. McBride Co., 1937); The South in progress (International, 1940). **G** S.

LUNDEN, Laurence Raymond, 3700 48th Ave. S., Minneapolis, Minn. (1930) **A** Univ. of Minnesota, asso. prof. asst. comptroller, T.A. **B** B.A., 1929, Grinnell; LL.D., 1941, Luther. **D** 7, 9, 2. **F** Type study of American banking (Univ. of Minnesota Press, 1934).

LUSHER, David W., 226 Main St., Brunswick, Me. (1941)

LUTEN, Daniel B., 2135 N. Illinois St., Indianapolis. Ind. (1930) **A** B. **B** B.S.C.E., 1894, Michigan. **D** 17, 5, 3. **G** W.

LUTHRINGER, George Francis, 4640 Reservoir Rd., Washington, D.C. (1930)

LUTZ, Friedrich August, 120 Prospect Ave., Princeton, N.J. (1938) **A** Princeton Univ., asst. prof., TR. **B** Dr. rer. pol., 1925, Tuebingen Univ. **C** The discussion about the concept of capital. **D** 1, 7, 5. **E** Theory of capital. **F** Das Konjunkturproblem in der Nationaloekonomie (Fisher, Jena, 1932); "The outcome of the savings-investment discussion," Q.J.E., 1938; "The structure of interest rates," Q.J.E., 1940. **G** S.

LUTZ, Harley Leist, 20 Nassau St., Princeton, N.J. (1910) **A** Princeton Univ., prof. of pub. fin. **B** A.B., 1907, LL.D., 1932, Oberlin; M.A. 1908, Ph.D., 1914, Harvard. **C** State control over the assessment of property for taxation (pub. as The state tax commission, Harvard Univ. Press, 1918). **D** 6. **F** Public finance (Appleton-Century, rev. 1936); The taxation of railroads in New Jersey (Princeton Univ. Press, 1940); Financing the defense program (Nat. Econ. League, 1941). **G** WSE.

LUTZ, Warren Hornberger, 533 Orchard Ave., Yeadon Boro, Del. Co., Pa. (1941) **A** Philadelphia Elec. Co., statis. anal., B. **B** E.E., 1922, Lehigh. **D** 4, 5, 14. **E** Application of mathematical statistics to rainfall data; developing specific business forecasting systems through correlations, trends, etc.; isolating and measuring shifting seasonality patterns; establishing specific indexes, etc.

LUTZKER, Samuel, 1111 St. Johns Pl., Brooklyn, N.Y. (1941) **A** U. S. Employ. Serv., Div. of Res. and Statis., econ., R. **B** A.B., 1935, Brooklyn; M.A., 1937, grad. work, Columbia. **D** 17, 18, 4. **E** Labor market, metropolitan area, N.Y.

LYNCH, Edward Stephen, 1310 Connecticut Ave., N.W., Washington, D.C. (1936) **A** **Bd. of Invest. and Res., prin. econ., R;** Iowa State Col., asst. prof., TR. **B** A.B., 1931, Amherst; M.A., 1934, Ph.D., 1936, Harvard. **C** Economics of rail-highway competition with special reference to New England. **D** 14, 16, 1. **E** Influence of the interregional freight rate structure on the location of industry. **F** Accounting problems in railroad abandonments in

Iowa, 1920-40 (Iowa State Engr. Exp. Sta., 1941); Influence of transportation on industrial location (Nat. Res. Plan. Bd., 1942); "Taxation and railroad abandonments," Harvard Bus. Rev., 1940. G S.

LYND, Robert Staughton, Columbia Univ., Fayerweather Hall, New York City. (1939) A Columbia Univ., prof., TR. B Ph.D., 1931, Columbia. C Middletown: a study in American culture (pub. as Middletown, 1929, and Middletown in transition, 1937). D 19, 3. F Knowledge for what? (1939); "The people as consumers," in Recent social trends (1931); "Democracy's third estate: the consumer," Polit. Sci. Quar., Dec., 1936. G WS.

LYNE, James Garnett, 30 Church St., Room 940, New York City. (1935) A **Railway Age, asst. to editor.** B A.B., 1920, Kansas. D 14, 3, 10. E Recent railroad rate policy (doctoral dissertation, New York).

LYNN, Gault W., Dept. of Econ., Stanford University, Calif. (1938) A Stanford Univ., instr., T. B A.B., 1932, Pomona. D 11, 10, 1. E Analysis and critique of the monetary theories of J. M. Keynes (doctoral dissertation).

LYON, Hastings, Columbia Univ. School of Bus., New York City. (1912) A Columbia Univ., asso. prof. of fin., T. B A.B., 1901, Dartmouth; LL.B., 1905, Harvard. D 9. F Corporations and their financing (Heath, 1938); The constitution and men who made it (Houghton Mifflin, 1936); Determinants of the rate of interest (John Felsberg, 1942). G WS.

LYON, Leverett Samuel, 219 Lake Shore Dr., Chicago, Ill. (1923) A Chicago Asso. of Com., chief exec. officer, RA. B Ph.B., 1910, A.M., 1919, Ph.D., 1921, Chicago; LL.B., 1915, Chicago Kent Col. of Law. C A functional approach to social economic data (J.P.E., July, 1920). D 10, 11, 12. E Economic problems of cities. F Salesman in marketing strategy (Macmillan, 1926); "Economic problems of American cities," A.E.R., Mar. Sup., 1942; Government and economic life (Brookings, 2 vols., 1939-40). G WSIE.

MACAULAY, Frederick Robertson, 11 Clover Dr., Great Neck, N.Y. (1919) A Nat. Sec. and Res. Corp., dir. econ., RB. B B.A., 1909, M.A., 1910, LL.B., 1911, Univ. of Colorado; Ph.D., 1922, Columbia. C Distribution of income in the United States. D 1, 4, 5. F Interest rates, bond yields and stock prices (Nat. Bur. of Econ. Res., 1938). G WS.

MacDOUGALL, Donald Alexander, 422 N. Firestone Blvd., Akron, Ohio. (1941)

MacGARVEY, Charles J., Box 28, Cornwells Hghts., Pa. (1940) A Fleetwings, Inc., contract auditor, A. B B.S.(Econ.), 1920, Trinity Col., Dublin. D 4, 6, 9.

MacGIBBON, Duncan Alexander, Bd. of Grain Com. for Canada, Winnipeg, Canada. (1911) A Bd. of Grain Com. for Canada, commissioner, A. B B.A., 1908, M.A., 1911, LL.D., 1940, McMaster; Ph.D., 1915, Chicago. C Railway rates and the Canadian Railway Commission (Houghton Mifflin). D 8, 1, 14. F The Canadian grain trade (Macmillan, Canada, 1932). G SI.

MacGREGOR, Donald Chalmers, 273 Bloor St., W., Toronto, Canada. (1930) A Univ. of Toronto, asst. prof., T. B B.A., 1928, Toronto. F National income of Canada (King's Printer, Ottawa, 1939); "Problem of public debt in Canada," Canadian Jour. of Econ. and Polit. Sci., Feb., 1936; Canadian reports (London and Cambridge Econ. Serv., 1932-39). G S.

MACHELL, John Vicent, Jr., 408 N. Mathews Ave., Urbana, Ill. (1941)

MACHLUP, Fritz, Univ. of Buffalo, Buffalo, N.Y. (1935) A Univ. of Buffalo, prof., T. B Dr. sc. pol., 1923, Univ. of Vienna. C The gold exchange standard (Meyer, Halberstadt, 1925). D 1, 7, 5. E Monopoly and competition. F The stock market, credit, and capital formation (Macmillan, 1940); "Period analysis and multiplier theory," Q.J.E., Nov., 1939; "The theory of foreign exchanges," Economica, Nov., 1939, Feb., 1940.

MACK, Russell Herbert, 31 Whitemarsh Rd., Ardmore, Pa. (1931) A Temple Univ., prof. of econ., T. B A.B., 1920, Baker; A.M., 1923, Columbia; Ph.D., 1933, Pennsylvania. C The cigar manufacturing industry (Univ. of Pennsylvania Press, 1933). D 1, 6, 3.

MACK, Ruth P., 430 W. 116th St., New York City. (1941)

MacKENZIE, (Thomas) Findlay, 33 Franklin Ave., Croton-on-Hudson, N.Y. (1928) A Brooklyn Col., Dept. of Econ., asst. prof., T. B Diploma, 1914, Sydney Teachers Col.; A.B., 1918, Univ. of Sydney; A.M., 1921, Columbia; Ph.D., 1933, New York. C Social forces underlying education and nationalism in New South Wales. D 3, 10, 1. E Revision of Planned society: yesterday, today, tomorrow. F Nationalism and education in Australia (P. S. King and Son, 1935); editor, Planned society: yesterday, today, tomorrow (Prentice-Hall, 1937). G S.

MACKINTOSH, William Archibald, Dept. of Fin., Ottawa, Canada. (1918) A **Dept. of Fin., spec. asst. to deputy minister, A;** Queen's Univ., School of Com., dir., prof. of econ., T. B M.A., 1916, Queen's Univ.; Ph.D., 1922, Harvard; LL.D., 1942, Manitoba. C Agricultural co-operation in western Canada (Ryerson Press, Toronto, 1924). D 2, 5, 6. F Prairie settlement (Macmillan, Toronto, 1933); Economic problems of the prairie provinces (Macmillan, Toronto, 1935); "Economic background of Dominion-Provincial relations," Appendix 3 to Report of Royal Com. on Dominion-Provincial Rela. (King's Printer, Ottawa, 1939). G S.

MACLAURIN, W(illiam) Rupert, M.I.T., Ind. Rela. Sec., Cambridge, Mass. (1937) A M.I.T., Ind. Rela. Sec., dir., prof. of econ., TRA. B A.B., 1929, M.B.A., 1932, D.C.S., 1936, Harvard. C Economic planning in Australia, 1929-36 (P. S. King and Son, London, 1937). D 11, 17, 5. E Economics of technological change. F "After unemployment benefits are exhausted" (with Charles A. Myers), Q.J.E., 1942; "Recent experience with compulsory arbitration in Australia." A.E.R., Mar., 1938.

MacLEISH, John E., 134 S. La Salle St., Chicago, Ill. (1934)

MacMURPHEY, Robert Hyde, Henry Holt and Co., 257 4th Ave., New York City (1941) A Henry Holt and Co., vice-pres., B. B B.A., 1923, Minnesota. D 1.

MACON, Hershal L., 3812 N. Broadway, Knoxville, Tenn. (1934) A TVA, econ., R. B B.S., 1924, Guilford; M.A., 1925, Haverford; Ph.D., 1932, North Carolina. C Fiscal history of North Carolina, 1776-1860. D 6, 5, 14. E Analysis and appraisal of payments in lieu of taxes by the federal government. F "Payments in lieu of state and local taxes," S.E.J., Apr., 1942, Jour. of Polit., Aug., 1941.

MACY, C. Ward, Coe Col., Cedar Rapids, Iowa. (1935) A Coe Col., Div. of Soc. Studies, chmn., prof. of econ., T. B A.B., 1920, Grinnell; A.M., 1923, Iowa; Ph.D., 1932, Stanford. C An evaluation of the sources of public revenue in Iowa. D 6, 7, 5. E Social security taxes in a war finance program; state taxes and national fiscal policies. F Public finance—selected readings (with E. D. Fagan) (Longmans, 1934). G S.

MADDEN, John Thomas, 32 Waverly Pl., New York City. (1920)

MADDOX, James G., U. S. Dept. of Agric., Farm Security Admin., Washington, D.C. (1935)

MADELEINE, (Sister) M. Grace, Immaculata Col., Immaculata, Pa. (1936) A Immaculata Col., instr. in econ., T. B B.A., 1929, Immaculata Col.; M.A., 1936, Pennsylvania. D 7, 1, 4. E Monetary and banking theories of Jacksonian democracy (doctoral dissertation, Pennsylvania, nearing completion).

MAGDOFF, Harry Samuel, Room 2743, New Soc. Sec. Bldg., 4th and C Sts., S.W., Washington, D.C. (1936)

MAGEE, James Dysart, New York Univ., Washington Sq., New York City. (1911) A New York Univ., prof. B A.B., 1902, Des Moines; A.M., 1906, Ph.D., 1913, Chicago. C Money and prices: a statistical study of price movements (privately pub., 1913). D 7, 1, 10. E Development of economic writing in U. S. F Introduction to money and credit (Crofts, rev., 1933); Capital expansion, employment and economic stability (with Moulton, Edwards, and Lewis) (Brookings, 1940); "The cor-

rectives of the exchanges," A.E.R., Sept., 1932. G WS.

MAGEE, Mabel A., Wells Col., Aurora, N.Y. (1925)

MAGNUSSON, Leifur, 3223 Northampton St., N.W., Washington, D.C. (1924) **A Library of Cong., War Serv. Sec., Leg. Ref., chief, A;** retired. **B** A.B., 1905, Minnesota; LL.B., 1915, Georgetown Univ. **D** 17, 20. **F** Housing by employers in the United States (U. S. Bur. of Labor Statis., 1919). **G** W.

MAHER, Amy Grace, 12 Quincy St., Chevy Chase, Md. (1925) **A** Soc. Sec. Bd., econ. anal. **B** B.A., 1906, Smith. **D** 17, 18, 10. **G** S.

MAHONEY, J. R., Univ. of Utah, Salt Lake City, Utah. (1942)

MALIN, Patrick Murphy, 221 Princeton Ave., Swarthmore, Pa. (1930)

MALLERY, Otto Tod, 1427 Spruce St., Philadelphia, Pa. (1942) **A** R, writer. **B** A.B., 1902, Princeton; grad. work, Pennsylvania, Columbia. **D** 8, 5, 3. **F** Economic union and durable peace (Harper, 1942). **G** WI.

MALONE, Carl C., Story City, Iowa. (1941)

MALOTT, E. Orth, 1301 15th St., N.W., Washington, D.C. (1929) **A U. S. Dept. of Agric., Office for Agric. War Rela., Transp. and Market. Div., chief, liaison, A;** R. **B** B.S. in E.E., 1916, M.S. in E.E., 1923, Purdue; M.B.A., 1926, Ph.D., 1929, Northwestern. **C** Forces affecting municipally owned plants in Wisconsin (mono., 1930). **D** 14, 9, 10. **F** Agriculture's requirements for transportation in 1941 (Mar., 1941), "The Hoch-Smith Resolution—a study of a legislative mandate (July, 1942) (U. S. Dept. of Agric.).

MALOTT, Edward O., Jr., 1301 15th St., N.W., Washington, D.C. (1941) **A Vick Chemical Co., B. B** B.S., 1940, M.B.A., 1941, Northwestern. **D** 12, 6.

MALTBIE, Milo Roy, 80 Centre St., New York City. (1898)

MANDEL, Bernard, 1520 Devereaux Ave., Philadelphia, Pa. (1940) **A** U. S. Dept. of Labor, Wage and Hour Div., inspector, A. **B** B.A., 1933, M.A., 1934, Pennsylvania. **D** 1, 4, 17.

MANDEVILLE, Merton Joseph, Univ. of Illinois, 314 Commerce Bldg., Urbana, Ill. (1933) **A** Univ. of Illinois, asso., T. **B** B.S., 1921, M.S., 1922, Ph.D., 1935, Illinois. **C** The American merchant marine problem: its development from 1920 to 1932. **D** 11, 12, 17. **F** Incentive pay versus day-work pay (Ind. Manage. Soc., 1941); Industrial management (with A. G. Anderson and J. M. Anderson) (Ronald Press, 1942).

MANES, Alfred, Indiana Univ., School of Bus., Bloomington, Ind. (1936) **A** Indiana Univ., res. prof., TR. **B** Ph.D., 1898, Goettingen Univ.; LL.D., 1899, Heidelberg Univ. **C** History of liability insurance (Ph.D.); The law of the pseudonym (LL.D.). **D** 9, 18, 2. **E** Insurance activity of federal government in peace and wartime. **F** System of insurance economics (in German) (Teubner, Leipzig, 5th ed., 1930-32); Ins Land der sozialen Wunder (Australia und New Zealand) (Mittler, Berlin, 4th ed., 1914); Insurance: facts and figures (Harper, 1938). **G** WSI.

MANEVAL, Raymond Kenneth, Pennsylvania State Center, 10th and Lexington, Altoona, Pa. (1940) **A** Pennsylvania State Col. Center of Altoona, instr., T. **B** B.S., 1938, Lehigh; M.A., 1939, Pennsylvania State Col. **D** 17, 14, 4.

MANGOLD, George Benjamin, 3764 Olympiad Dr., Los Angeles, Calif. (1910) **A** Univ. of Southern California, prof. of soc., T. **B** A.B., 1901, Cornell Col.; A.M., 1903, Chicago, Ph.D., 1906, Wisconsin. **C** The labor argument in the protective tariff controversy (Univ. of Wisconsin, 1908). **D** 18, 17, 20. **F** Problems of child welfare (Macmillan, rev. 1936); Social pathology (Macmillan, 1932); Organization for social welfare (Macmillan, 1934). **G** WS.

MANHART, Lewis Franklin, Bowling Green State Univ., Bowling Green, Ohio. (1942) **A** Bowling Green Univ., asst. prof., T. **B.** B.S.Ed., 1929, Bowling Green State Univ.; M.A., 1936, Ohio State. **D** 4, 12, 1. **E** Case studies in retail credit management (doctoral dissertation).

MANLEY, John H., 215 Hart Blvd., Staten Island, N.Y. (1940)

MANLY, Lewis Frederick, 120 Packard Ave., Tufts Col., Mass. (1928) **A** Tufts Col., asso. prof., T. **B** B.S., 1925, Wooster Col.; M.A., 1927, Tufts. **D** 4, 17, 10. **F** "Labor in wartime," Tuftonian, Jan., 1942.

MANN, Fritz Karl, 25 Williams Lane, Chevy Chase, Md. (1936) **A** American Univ., prof. of econ. and pub. fin. **B** Dr. juris. 1906, Univ. of Goettingen; Ph.D., 1913, Univ. of Berlin. **C** Die Verpfändung eines Wechsels (Dr. Juris, 1906); Der Marschall Vauban und die Volkswirtschaftslehre des Absolutismus: eine Kritik des Merkantilsystems (Ph.D., 1913). **D** 7, 6, 1. **E** Independent government financial agencies in the U. S. and abroad; treatise on fiscal policies. **F** Kriegswirtschaft in Rumänien (Bucharest, 1918); Deutsche Finanzwirtschaft (Jena, 1929); Steuerpolitische Ideale, 1600-1935 (Jena, 1937). **G** I.

MARBLE, John Maclaren, 2055 Ashbourne Dr., South Pasadena, Calif. (1927)

***MARBURG, Theodore,** 14 W. Mt. Vernon Pl., Baltimore, Md. (1890)

MARBURG, Theodore Francis, 912 19th St., N.W., Apt. 3-4, Washington, D.C. (1938) **A U. S. Bur. of Labor Statis., Postwar Div., asst. econ.;** Univ. of Nebraska, instr. **B** B.A., 1936, Antioch; M.A., 1937, Ph.D., 1942, Clark Univ. **C** Management problems and procedures of a manufacturing enterprise, 1802-52: a case study of the origin of the Scovill Manufacturing Company. **D** 2, 3, 10. **E** Aspects of postwar demobilization; management procedures in industry and commerce of early nineteenth century. **F** "Aspects of labor administration in the early nineteenth century," Feb., 1941, "Commission agents in the brass and button trade a century ago," Feb., 1942, Bul., Bus. Hist. Soc.

MARCOUX, Dale C., Washburn Municipal Univ., Topeka, Kan. (1941) **A** Washburn Municipal Univ., asst. prof., T. **B** B.S., 1929, M.B.A., 1937, Kansas. **D** 6, 1, 4.

MARGET, Arthur William, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1926) **A** Univ. of Minnesota, prof., TR. **B** A.B., 1920, A.M., 1921, Ph.D., 1927, Harvard. **C** The loan fund: a pecuniary approach to the determination of the rate of interest. **D** 7, 5, 1. **E** Money economy; generation and utilization of money income; money and production; money and interest. **F** The theory of prices (Prentice-Hall, 2 vols., 1938, 1942); "The velocity of circulation of goods," J.P.E., 1932, Zeitschrift für Nationalökonomie, 1932, Economica, 1932-33; "The monetary theory of Léon Walras," J.P.E., 1931, 1935. **G** WSE.

MARLATT, Abby Lillian, 612 Howard Pl., Madison, Wis. (1924)

MARQUARD, Elva, 1112 16th St., N.W., Washington, D.C. (1940)

MARQUARDT, Philomena Lois, 4445 Post Rd., Apt. 5-H, New York City. (1935) **A** Col. of Mt. St. Vincent, asst. prof., T. **B** B.S., 1934, M.S., 1935, Illinois; grad. work, Chicago. **D** 17, 1, 2.

MARQUIS, Ralph William, 3206 Wisconsin Ave., N.W., Washington, D.C. (1929) **A** U. S. Forest Serv., forester, R. **B** A.B., 1924, Univ. of Washington; M.A., 1928, Ph.D., 1931, Wisconsin. **C** Economic aspects of private forestry (McGraw-Hill, 1939). **D** 15, 10, 1. **G** S.

MARSCHAK, Jacob, 3902 Spuyten Duyvil Pkwy., New York City. (1939) **A** New School for Soc. Res., Grad. Fac., prof., TR. **B** Ph.D., 1922, Heidelberg Univ., Germany; M.A. (by decree), 1935, Oxford. **C** The equation of exchange (Archiv fuer Socialwissenschaft, 1924). **D** 4, 19, 5. **E** Measuring the influence of income and price on consumption of foods and on demand for new houses; probability in economics; stability conditions in international trade. **F** "Money and the theory of assets," Econometrica, Economica, 1938; Studies in labor mobility (with H. Makower and H. W. Robinson) (Oxford Econ. Papers, 1939-40); Capital formation (with W. Lederer) (W. Hodges, London, 1936). **G** S.

MARSH, Charles Franklin, 705 Powell St., Williamsburg, Va. (1929) **A Bd. of Invest. and Res.,**

prin. econ., R; Col. of William and Mary, Dept. of Bus. Admin., dir., prof. of econ. and bus. admin., TA. B B.A., 1925, MA., 1926, Lawrence; Ph.D., 1928, Illinois. C Trade unionism in the electric light and power industry (Univ. of Illinois Press, 1928). D 10, 14, 11. E Public aids to highway transportation; Va. State Corp. Com. F "Trade unionism in power industry," 1929-30, "Local transportation problem in District of Columbia," 1934-35, "The Consolidated Edison labor decision," 1939, Jour. of Land and Pub. Util. Econ. G S.

MARSH, Donald Bailey, Columbia Univ., Barnard Col., New York City. (1941) A Barnard Col., instr., TR. B B.A., 1935, New Brunswick; M.A., 1936, Louisiana State Univ.; Ph.D., 1940, Illinois. C The classical theory of international trade in the light of the assumptions of imperfect competition. D 1, 8, 6. E Taxation of imputed income; international trade policy; international values under imperfect competition. F "The scope of the theory of international trade under monopolistic competition," Q.J.E., May, 1942.

MARSHALL, George, 38 E. 57th St., New York City. (1928)

MARSHALL, Leon Carroll, 7007 Rolling Rd., Chevy Chase, Md. (1904)

MARSHALL, Stewart McCulloch, 430 Nevada Ave., Palo Alto, Calif. (1933) A Consulting engr., AB. B B.S. in E.E., 1900, M.E., 1910, Pennsylvania; M.S., 1932, Columbia. D 13, 5, 4.

MARSTON, Oliver J., 1656 Wellington Rd., Los Angeles, Calif. (1919)

MARTIN, Boyce Ficklen, School of Bus. Admin., Emory University, Ga. (1940)

MARTIN, Edgar W., 1312 Lincoln St., Topeka, Kan. (1940) **A U. S. Army, pvt.** B A.B., 1932, Washburn; A.M., 1934, Ph.D., 1942, Chicago. C The standard of living in 1860: American consumption levels on the eve of the Civil War (Univ. of Chicago Press, 1942). D 2, 8.

MARTIN, James Walter, 241 Tohama Rd., Lexington, Ky. (1923)

MARTIN, Margaret Elizabeth, 357 Morris St., Albany, N.Y. (1938) A U. S. Employ. Serv. for N. Y., Div. of Res. and Statis., econ., R. B A.B., 1933, Barnard; M.A., 1934, Ph.D., 1942, Columbia. C Merchants and trade of the Connecticut River Valley, 1750-1820 (Smith Col. Studies in Hist., Vol. XXIV, Nos. 1-4). D 18, 2, 19.

MARTIN, Oscar Ross, Univ. of Nebraska, Lincoln, Neb. (1911) A Univ. of Nebraska, prof., chmn. of dept., T. B A.M., 1913, Illinois; C.P.A., Nebraska. D 4.

MARTIN, Selden Osgood, 700 Esplanade, Pelham Manor, N.Y. (1904) **A War Dept., Statis. Serv., Control Div., chief, export consultant to Secy. of War;** ind. adviser. B A.B., 1903, Bowdoin; A.M., 1904, Ph.D., 1912, Harvard. C Recent water power developments in the United States. D 11, 8, 4. F Contributor, E. J. Gay memorial volume, Facts and factors in economic history (1932); Scientific study of marketing (Amer. Acad. of Polit. and Soc. Sci., 1915). G W.

MARTINO, Juan R., Box 296, Bayamón, Puerto Rico. (1941)

MARVIN, Donald Mitchell, Cosmos Club, Washington, D.C. (1925) **A BEW, prin. econ anal., RA;** Pennsylvania State Col., Dept. of Econ., T. B B.A., 1915, Rollins; Ph.D., 1918, Pennsylvania. C Occupational propinquity as a factor in selection and marriage (Jour. of Amer. Statis. Asso., 1919). D 7, 8, 3. F Canada and the twentieth century (Royal Bank of Canada, 1926); The road to recovery (Harper, 1938).

MARX, Daniel, Jr., Dartmouth Col., Hanover, N.H. (1941) **A War Ship. Admin., spec. consultant;** Dartmouth Col., instr., TR. B A.B., 1929, Dartmouth. D 14, 8, 1. E U. S. Maritime Com., 1936-40 (doctoral dissertation). F "The structure of interest rates," Q.J.E., Nov., 1941; "Shipping crisis in the Pacific," Far Eastern Survey, May 5, 1941; "American shipping and the Sino-Japanese War," Far Eastern Survey, July 5, 1939.

MASON, Edward Sagendorph, Co-ordinator of Information, Washington, D.C. (1934) **A Co-ordinator of Information, Bd. of Anal., member, RA;** Harvard Univ., prof., TR. B A.B., 1919, Kansas; M.A., 1920, Ph.D., 1925, Harvard; B.Litt., 1923, Oxford. C Dumping in international trade. D 11, 3, 1. E Cost behavior and price policy (Nat. Bur. of Econ. Res., in press). F The Paris Commune (Macmillan, 1930); The steel railway in Massachusetts (Harvard Univ. Press, 1932); Public policy (Harvard Univ. Press, rev. 1941). G WS.

MASON, John Everett, 106 N. George Mason Dr., Arlington, Va. (1940) A Agric. Adjust. Agency, agric. econ., R. B B.S.A., 1934, M.S., 1936, Tennessee; M.A., 1939, Minnesota. D 15, 10, 16. E Methods of determining cotton acreage allotments; cotton acreage adjustments in the Mississippi River alluvial valley and adjacent areas (doctoral dissertation, Minnesota, nearing completion). F New settlement problems in the northeastern Louisiana delta (with P. E. Jones and J. T. Elvove) (La. Agric. Exp. Sta., Feb., 1942); Isolated settlement in Koochiching County, Minnesota (U. S. Dept. of Agric., Nov., 1940); An analysis of pertinent social and economic factors affecting land use in Overton County, Tennessee (with E. L. K. Gruehn) (U. S. Dept. of Agric., Aug., 1939).

MASON, William Edwin, Univ. of Washington, Col. of Econ. and Bus., Seattle, Wash. (1938) **A Univ. of Washington, asso., TR.** B B.A., 1935, Pacific; M.A., 1942, Univ. of Washington. D 1, 5, 19. E Purchasing power and capital formation.

MASSEL, Jean Magnus (Mrs. Mark S.), Clinton, Md. (1941)

MASSEL, Mark S., Clinton, Md. (1936)

MASSON, Robert Louis, Harvard Univ., Grad. School of Bus. Admin., 220 Morgan Hall, Soldiers Field, Boston, Mass. (1923) A Harvard Univ., prof. of fin., T. B B.A., 1912, M.A., 1915, Iowa; M.A., 1922, Harvard. D 9, 7, 8. F Problems in corporation finance (with S. S. Stratton) (McGraw-Hill, 1935); Financial instruments and institutions: a casebook (with S. S. Stratton) (McGraw-Hill, 1938). G WS.

MASTER, Martin Harold, 2052 N. 6th St., Philadelphia, Pa. (1942)

MATCHETT, Gerald J., 2109 F St., N.W., Apt. 104, Washington, D.C. (1939) A Dept. of Com., asso. econ. anal., T. B A.B., 1934, Univ. of Colorado; M.A., 1935, Ph.D., 1939, Clark Univ. C The double liability clause of bank stocks in the United States. D 1, 10, 11. E Revision of theory section of Edie's Principles of economics.

MATEO, Felix Alejandro, Jirón Callao 757, Lima, Peru, S. Amer. (1942)

MATEYO, George K., 485 Madison Ave., New York City. (1942) A Columbia Broadcasting System, asst. to dir. of res., R. B S.B., 1934, M.B.A., 1936, Harvard. D 12, 14, 19. F "Latin American consumers," Jour. of Market., Sup., Apr., 1942.

MATTESON, James Swift, 902 Fidelity Bldg., Duluth, Minn. (1919)

***MATTIOLI, Raffaele,** via Bigli 15, Milan, Italy. (1938)

MAULDON, Frank Richard Edward, Univ. of Western Australia, Crawley, W.A. (1930) A Univ. of Western Australia, prof.; Western Australian Ind. Expansion Com., chmn. B B.A., 1915, M.Ec., 1925, Sydney; Litt.D., Melbourne, 1929. C Economics of Australian coal (Macmillan, 1929). D 10, 16, 4. E Economic reconstruction in Australia. F Study in social economics: the Hunter River valley (Robertson and Mullens, Melbourne, 1926); Mechanization in Australian industries (mono., Univ. of Tasmania, 1938).

MAURER, William John, 250 Broad Ave., Leonia, N.J. (1940) A Baker and Co., B. B A.M., 1935, New York. D 8, 11, 12.

MAVERICK, Lewis Adams, 416 Maverick Bldg., San Antonio, Tex. (1939) **A Estate George M. Maverick, agent, B;** Univ. of California at Los Angeles, asso. prof., T. B B.S., 1913, Washington Univ.; Ed.D., 1925, Harvard; Ph.D., 1931, California. C Vocational guidance of college students (Ed.D., Harvard Univ. Press, 1926); Cycles in real estate activity in Alameda County, California (Ph.D., Jour. of Land and Pub. Util. Econ., May, 1932, Feb., 1933, Aug., 1934). D 4, 5, 1. E Time series analysis by successive smoothings; influence of Chinese thought and practices upon Physiocrats. F "Time series: analysis by successive smoothings," Econometrica, July, 1933; "Chinese influ-

ences upon the Physiocrats," Econ. Hist (London, Feb., 1938, Feb., 1940). G S.

MAX, William D., 208 Sterling St., Brooklyn, N.Y. (1921)

MAXWELL, James Ackley, Clark Univ., Worcester, Mass. (1925) A Clark Univ., prof., T. B A.B., 1921, Dalhousie; A.M., 1923, Ph.D., 1927, Harvard. C A financial history of Nova Scotia. D 6, 7, 1. E Effects of federalism on public finance in the U.S. F Federal subsidies to provincial governments in Canada (Harvard Univ. Press, 1937); "Canadian dominion-provincial relations," Q.J.E., 1941; "Problems of the Commonwealth Grants Commission," Econ. Record (Australia), 1938. G WS.

MAY, Alonzo Beryl, Univ. of Denver, Denver, Colo. (1938) A Univ. of Denver, Div. of Soc. Studies, chmn., Econ. Dept., chmn., prof., TA. B S.B., 1927, Kansas State Teachers Col., Pittsburg; A.M., 1935, Kansas; Ph.D., 1937, Iowa. C The exemption of real property from taxation. D 6, 8, 18. E Postwar problems of economic readjustment. F "Status of homestead tax exemption in the United States," Apr., 1937. "Effects of homestead tax exemption." Nov., 1937, Jour. of Land and Pub. Util. Econ. G S.

MAY, (Mrs.) Elizabeth Stoffregen, 2328 Chain Bridge Rd., N.W., Washington, D.C. (1935) A Bur. of the Budget, sr. fiscal anal., R. B A.B., 1928, Smith; Ph.D., 1931, London School of Econ. C Restriction of the supply of staple commodities. D 6, 8, 7. F Joint author, International control in the nonferrous metals (Macmillan, 1937); Government business and the individual (1936), Social welfare (1937) (Amer. Asso. of Univ. Women). G SE.

†MAY, George Oliver, 56 Pine St., New York City. (1908) A Price, Waterhouse and Co., consultant, B. D 4, 6, 10. F Twenty-five years of accounting responsibility (1936). G W.

MAY, Herbert Kenneth, 1408 Owen St., Saginaw, Mich. (1942) B B.A., 1938, M.A., 1940, Michigan. D 7, 10, 1. E Stabilization funds (doctoral dissertation).

MAY, John Wesley, Univ. of Pittsburgh, Johnstown Center, Johnstown, Pa. (1940) A Univ. of Pittsburgh, instr. B A.B., B.S., 1933, M.A., 1938, Missouri. D 10, 11. E Effects of judicial interpretation on business concentration (doctoral dissertation).

MAY, Richard Arnold, 1020 Prince St., Alexandria, Va. (1927) A WPB, econ. advisor, R; A. B A.B., 1918, M.B.A., 1920, Harvard. D 10, 8, 17. E Basic data of raw materials. F Trade association activities (U. S. Gov., 1923).

MAY, Stacy, WPB, Room 5700, Soc. Sec. Bldg., 3rd and Independence Ave., S.W., Washington, D.C. (1920) A WPB, Div. of Statis., Office of Progress Reports, dir., RA; Rockefeller Found., asst. dir. soc. sci. B Undergrad., 1919, Amherst; Ph.D., 1924, Brookings. C Public control of business (Harper, 1930). D 10, 11. E War production research. F Control of wages (Macmillan, 1923). G WSE.

MAYER, Joseph, Library of Congress, Washington, D.C. (1921)

MAYER, Leo Kenneth, 215 Middle Neck Rd., Great Neck, L.I., N.Y. (1935) A Columbia Machine Works, comptroller, B. B LL.B., 1918, grad. work, 1921, New York. D 14, 9, 4. E Economics of air cargo transportation. F "Rhapsody of the rails," Plain Talk, 1937; History of municipal railways (Pub. Ownership League, 1923); Latin American economics (Venezuelan C. of C. in U.S., 1939).

MAYER, Robert Wallace, 904 Highland Dr., Silver Spring, Md. (1933) A WPB, sr. econ., R; Lehigh Univ., asst. prof., T. B B.S., 1930, M.S., 1931, Ph.D., 1933, Illinois. C Trading on the equity by public utility operating companies. D 9, 10, 14. E Expansion program in the steel industry. F "Impact of Pennsylvania tax system on corporate enterprise," in Tax and finance report (Pa. Joint State Gov. Com., Jan., 1941). G S.

MAYNARD, Eugene Leslie, 1414 Gregory Ave., Wilmette, Ill. (1929) A Ill. Tax Com., res. asso., R. B A.B., 1927, M.B.A., 1931, Kansas. D 6, 1, 4.

MAYNARD, Harold Howard, Ohio State Univ., Columbus, Ohio. (1921) A Ohio State Univ., Dept. of Bus. Org., chmn., prof. of market., TA. B B.A., 1912, Iowa State Teachers Col.; M.A., 1915, Ph.D., 1922, Iowa; A.M., 1919, Harvard. C The marketing of northwestern box apples. D 12, 10, 19. E Sources of sales managers. F Principles of marketing (with Weidler and Bockman) (Ronald Press, rev. 1938); Drug store management (with Nolen) (McGraw-Hill, 1941); Introduction to business management (Ronald Press, rev. 1940). G WS.

MAYO, George Elton, Harvard Univ., Grad. School of Bus. Admin., Soldier's Field, Boston, Mass. (1941) A Harvard Univ., prof. of ind. res., R. B M.A., 1910, Univ. of Adelaide, Australia; M.A., 1912, Univ. of Brisbane, Australia; A.M., 1942, Harvard. D 17. F The human problems of an industrial civilization (Macmillan, 1933).

McALLISTER, Philip S., 139 E. Foothill Blvd., Altadena, Calif. (1942)

McBRIDE, John Wesley, 3504 3rd St., N., Arlington, Va. (1929) A U. S. Dept. of the Interior, Bituminous Coal Div., sr. econ. anal., R. B A.B., 1929, Ohio Univ.; M.A., 1930, Princeton. D 13, 11, 10. E Relationship between agricultural and industrial prices, 1921-29 (doctoral dissertation); realization and distribution for bituminous coal during the first year under minimum prices; spot market price index for bituminous coal. F Foreign trade under the National Industrial Recovery Act (NRA, Div. of Rev., 1936). G S.

McCABE, David Aloysius, Herrontown Rd., Princeton, N.J. (1909) A Princeton Univ., prof. B A.B., 1904, Harvard; Ph.D., 1909, Johns Hopkins. C Standard rate in American trade unions (Johns Hopkins Press, 1912). D 17, 3, 19. E Collective bargaining; wartime wage policy. F National collective bargaining in the pottery industry (Johns Hopkins Press, 1932); Mediation, arbitration, and investigation in industrial disputes (with G. E. Barnett) (Appleton, 1916). G WSI.

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McCORMACK, Alfred, 4701 Fulton St., N.W., Washington, D.C. (1941) A **War Dept., spec. asst. to Secy. of War;** Cravath, de Gersdorff, Swaine and Wood, partner, lawyer. B A.B., 1921, Princeton; LL.B., 1925, Columbia. D 10, 17, 9.

McCOY, James, Sr., P.O. Box 559, Massillon, Ohio. (1941)

McCRACKEN, Harlan Linneus, Louisiana State Univ., Himes Hall, Baton Rouge, La. (1933) A Louisiana State Univ., Dept. of Econ., head, TA. B B.S., 1915, Haverford; M.A., 1916, Penn Col.; Ph.D., 1923, Wisconsin. C Embodied value theory and business cycles (pub. as Value theory and business cycles, McGraw-Hill, 2nd ed., 1936). D 1, 5, 7. E Price policies in wartime. F "Monopolistic competition and business fluctuations," S.E.J., Oct., 1938; "An appraisal of the possibility of plenty," Soc. Adv. of Manage. Jour., Mar., 1936. G WSE.

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McDONOUGH, Charles A., 18 Tremont St., Boston, Mass. (1914)

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McGARRY, Edmund Daniels, Univ. of Buffalo, Buffalo, N.Y. (1923)

McGRATH, William Henry, Yarrow Point, Bellevue, Wash. (1919)

McGRAW, Booker Tanner, 618 R St., N.W., Washington, D.C. (1931) A **Nat. Hous. Agency, prin. consultant, RA;** Lincoln Univ., Jefferson City, Mo., Dept. of Econ. and Bus. Admin., head, prof., registrar, TRA. B A.B., 1923, Atlanta; M.A., 1924, M.B.A., 1926, Michigan; M.A., 1933, Ph.D., 1939, Harvard. C French recovery policy, 1927-38. D 7, 6, 5. E French economic policy, 1927-40. G SE.

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McGUIRE, Christine Harrison, Blake Hall, 5829 Ellis Ave., Chicago, Ill. (1941) A Univ. of Chicago, instr., TR. B A.B., 1937, Muskingum Col.; M.A., 1938, Ohio State. D 1, 8, 5. E Price controls and their effects.

McGUIRE, Constantine Edward, Cosmos Club, 1520 H St., Washington, D.C. (1922)

McINDOE, Robert Lyman, 186-39 Radnor Rd., Jamaica Estates, L.I., N.Y. (1929)

McINTYRE, Francis Edgar, Indiana Univ., Econ. Dept., Bloomington, Ind. (1938) A **Office of Lend-Lease Admin., prin. econ., RA;** Indiana Univ., Central Statis. Bur., dir., asst. prof., TR. B A.B., 1931, Stanford; Ph.D., 1941, Chicago. C The economic pattern of corporate earnings (Indiana Univ. Press, 1942). D 4, 9, 1. E Earnings study on quarterly basis; demand for copper in the U.S.; investment experience in common stocks. F Joint ed., Studies in mathematical economics and econometrics (Univ. of Chicago Press, 1942).

McISAAC, Archibald McDonald, 25 Jefferson Rd., Princeton, N.J. (1925)

McKAY, Marion K., Univ. of Pittsburgh, Pittsburgh, Pa. (1921) A Univ. of Pittsburgh, prof., T. B S.B., 1907, Ohio Northern; A.B., 1910, Ohio State; A.M., 1912, Ph.D., 1918, Harvard. C History of the poll tax in the New England and South Atlantic states. D 6, 10, 14. F "Financing education in Pennsylvania," Proceedings of Schoolmasters Week (Univ. of Pennsylvania), 1937; History of taxation in Pennsylvania (Nat. Tax Asso., 1927); "The sales tax," Greensburg Jour., 1937. G SE.

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McLAUGHLIN, Frederick Charles, Stephens Col., Columbia, Mo. (1940) A Stephens Col., instr., T. B B.S., 1930, Detroit; M.A., 1938, Columbia. D 19, 16, 2. E Labor and the consumer (doctoral dissertation, Columbia).

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McLEAN, Evelyn Moseley (Mrs. Jack W.), 626½ Bushnell St., Alhambra, Calif. (1938)

McLEAN, Francis Herbert, 122 E. 22nd St., New

York City. (1898) A Family Welfare Asso. of Amer. D 18, 17. E Reference to family agencies of problem children in schools. F Springfield (Ill.) Survey (1916).

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McMAHON, (Mrs.) Theresa Schmid, Mercer Island, R.F.D., Wash. (1913)

McMANUS, Thomas Francis, 1825 F St., N.W., Washington, D.C. (1935) A **OPA, sr. econ., A;** Col. of New Rochelle, prof. of econ., T. B B.S. in Com., 1925, Northwestern; M.A., 1933, Ph.D., 1934, Iowa. C Banking and the business cycle: a study of the Great Depression in the United States (Macmillan, 1937, in collaboration with C. A. Phillips and R. W. Nelson). D 1, 7, 5. E Economics of government regulation of business. G S.

McMULLAN, Wilbur Neal, Montgomery Ave. and Paper Mill Rd., Chestnut Hill, Pa. (1931)

McMURRAY, Hugh Dietrich, 400 Strathmore Ave., Pittsburgh, Pa. (1938) A Univ. of Pittsburgh, student. B B.S., 1934, Litt.M., 1938, Pittsburgh. D 9, 17, 12. E Substitution value of plastics.

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McNEILL, Clarence Ernest, Univ. of Nebraska, Econ. Dept., Lincoln, Neb. (1919) A Univ. of Nebraska, prof.. T. B A.B., 1912, Doane; Ph.D., 1928, Yale. C Financial history of municipal subways of New York City. D 14, 19, 1. E Industrial possibilities of Neb. F Municipal electric and water systems in Nebraska (1938), Nebraska's electric power development in relation to municipal service (1939) (Univ. of Nebraska). G S.

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MEAD, Edward Sherwood, Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1934)

MEANS, Gardiner Coit, R.F.D. Route 1, Box 43, Vienna, Va. (1926) A U. S. Bur. of the Budget, chief fiscal anal., R. B A.B., 1918, M.A., 1927, Ph.D., 1933, Harvard. C The corporate revolution. D 3, 1, 5. F The modern corporation and private property (with A. A. Berle, Jr.) (Macmillan, 1933); The holding company (with James C. Bonbright) (McGraw-Hill, 1933); The modern economy in action (with Caroline F. Ware) (Harcourt Brace, 1936). G W.

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MERCHANT, Ely Othman, 122 E. 42nd St., Room

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MERIAM, Richard Stockton, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1914)

MERKEL, Carl M., 52 Argyle Rd., Brooklyn, N.Y. (1942) A **U. S. Naval Reserve, AV(S), lieut.,** R. B B.S., 1923, Pennsylvania; M.B.A., 1928, New York. D 9, 3, 2.

MERKT, Oswald Eugene Decker, Apt. 11A, Westmoreland Gardens, Little Neck Pkwy., Little Neck, N.Y. (1942) A Bloch and Guggenheimer, Inc., asst. to produc. mgr., B B A.B., 1933, Dartmouth; M.B.A., 1937, Pennsylvania. D 11, 17, 9.

MERRIAM, Brewer Jay, Bd. of Investigation and Res., Dupont Circle Bldg., Washington, D.C. (1941) A **Bd. of Invest. and Res., asso. econ., R;** Univ. of Kansas, instr., T. B B.S., 1934, Bowdoin; M.B.A., 1939, Harvard. D 14, 12, 3. E Public aids to motor vehicle transportation.

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METZGER, Charles Robert, 5504 Hollywood Blvd., Hollywood, Calif. (1929) A Motion Picture Producers and Distributors of Amer., Produc. Code Admin., member of staff, A. B LL.B., 1917, Benjamin Harrison Law School; A.B., 1926, A.M., 1928, Indiana; LL.B., 1927, Indiana Law School. D 6, 5, 16. F State income taxation (Indiana Univ., 1926); "Motion pictures," in Social control (to be pub.). G W.

MEYER, Balthasar Henry, 210 Shoreham Bldg., Washington, D.C. (1889) A Consultant and mediator, transp., A. B B.L., 1894, Ph.D., 1897, LL.D., 1924, Wisconsin. C Early railway legislation of Wisconsin (Wis. Hist. Soc. and Wis. Acad. of Sci.). D 14, 10, 9. F Railway legislation in the United States (Macmillan, 1903); History of transportation in the United States before 1860 (Carnegie Inst., 1917). G WS.

MEYER, Carl, 231 S. LaSalle St., Chicago, Ill. (1918)

*__MEYER. Eugene,__ Washington Post, Washington, D.C. (1910)

MEYER, Walter T., Room 3020, 30 Rockefeller Plaza, New York City. (1941)

MEYERS, Albert Leonard, Bur. of Agric. Econ., Div. of Market. and Transp. Res., Washington, D.C. (1930) A Bur. of Agric. Econ., prin. econ., R. B A.B., 1925, Colgate; A.M., 1935, Ph.D., 1936, Harvard. C Future trading on organized commodity exchanges. D 1, 12, 5. F Elements of modern economics (rev. 1941). Modern economic problems (1939) (Prentice-Hall); Agriculture and the national economy (TNEC. Mono. 23, 1941). G S.

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MIDDLETON, Kenneth Allan, 132 B St., N.E., Washington, D.C. (1941) A **U. S. Bur. of Labor Statis., asst. econ., R.** B B.S., 1937, M.B.A., 1940, Kansas; Univ. Fellow, 1941-42, Columbia. D 4, 17, 1. E Measurement of labor and capital productivity.

MIGHELL, Albert Thomas, Route 1, Yorkville, Ill. (1925) A Farming. B Ph.D., 1933, Minnesota. C Application of economics to the management problems of the individual farmer (Iowa Agric. Exp. Sta.). D 15, 1. F Trial and error in farm management (Iowa Agric. Exp. Sta., 1939).

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MILLER, Adolph Caspar, 2230 S St., N.W., Washington, D.C., (1901)

MILLER, Arjay R., Fed. Res. Bank of San Francisco, Div. of Res., San Francisco, Calif. (1942) A Fed. Res. Bank, res. asst., TR. B B.S., 1937, California at Los Angeles. D 7, 11, 16. E Aircraft manufacturing on the Pacific Coast (doctoral dissertation); Pacific Coast industries. F A survey of the economic activities and problems of the Los Angeles and San Diego industrial areas (with Arthur G. Coons) (Calif. State Plan. Bd., 1942).

MILLER, Benjamin Orville, Box 482, Blacksburg, Va. (1938) A Virginia Poly. Inst., asso. prof. of econ., T. B B.A., 1923, Bridgewater Col.; M.A., 1924, Ph.D., 1937, Virginia. C The American merchant marine and the protective tariff. D 7, 1, 14. F "Protective tariff and the American merchant marine," S.E.J., Oct., 1937. G S.

MILLER, Edmund Thornton, Univ. Sta., Austin, Tex. (1909) A Univ. of Texas, prof., T. B B.A., 1900, M.A., 1901, Texas; M.A., 1903, Ph.D., 1909, Harvard. C A financial history of Texas, 1821-60. D 6, 7. E Financial history of Texas, 1916 on. F A financial history of Texas, 1821-1916 (Univ. of Texas, 1916). G WSE.

MILLER, Edward T., 624 N. Abingdon St., Arlington, Va. (1937) A **U. S. Army Air Forces, Civ. Personnel Div. H.Q., major,** A. B A.B., 1927, M.B.A., 1930, Harvard. D 17, 8, 1.

MILLER, Glenn Wasson, Ohio State Univ., Dept. of Econ., Columbus, Ohio. (1936) A **OPA, sr. econ., R;** Ohio State Univ., instr., T. B B.Ed., 1934, Southern Illinois Teachers Col.; A.M., 1935, Ph.D., 1939, Illinois. C Labor policies of consumers' co-operatives in Great Britain and the United States. D 17, 19, 1. E Federal government methods of settling labor disputes in World Wars I and II. F "Wages and hours in consumers' co-operatives in Great Britain and the United States," Q.J.E., Feb., 1941.

MILLER, Henry Siefke, 42 Commerce St., New York City. (1936) A Queens Col., asst. prof., T.

B A.B., 1924, M.A., 1929, Ph.D., 1938, Columbia. C Price control in Fascist Italy (Columbia Univ. Press, 1938). D 7, 4, 3. F "Techniques of price control in Fascist Italy," Polit. Sci. Quar., Dec., 1938; "Italian monetary and exchange policies under Fascism," A.E.R., Sept., 1940.

MILLER, John Lester, Univ. of Wisconsin, 208 Extension Bldg., Madison, Wis. (1939) A Univ. of Wisconsin, Ext. Div., asso. prof. of econ. and soc., TA. B B.A., 1925, Penn Col.; Ph.M., 1930, Ph.D., 1941, Wisconsin. C A history of the telephone industry as a regulated business in Wisconsin. D 14, 10, 16. E Critical evaluation of regulation of public utilities by the Pub. Serv. Com. of Wis.

MILLER, John Perry, 2222 I St., N.W., Washington, D.C. (1936) A **OPA, prin. econ., A;** Yale Univ., asst. prof., T. B A.B., 1932, M.A., 1934, Ph.D., 1937, Harvard. C Unfair competition (Harvard Univ. Press, 1941). D 11, 1, 10. F "Pricing of bituminous coal: some international comparisons," in Public policy (Harvard Univ. Press, 1940); "Price control in wartime," Yale Sci. Mag., Summer, 1942. G S.

MILLER, John W., 1201 Chase Ave., Chicago, Ill. (1939) A Montgomery Ward and Co., econ., B. B B.S., 1929, M.B.A., 1930, Northwestern. D 19, 12, 5.

MILLER, Paul Laird, 2414 Ridge Rd. Dr., Alexandria, Va. (1924)

MILLER, Sidney Lincoln, Univ. of Iowa, 314 Univ. Hall, Iowa City, Iowa. (1920) A **WPB, liaison officer, A;** Univ. of Iowa, Bur. of Bus. Res., dir., prof. of transp., TRA. B A.B., 1912, Kansas Teachers Col., Emporia; A.M., 1916, Ph.D., 1920, Wisconsin. C Condition of the railways of the United States, April, 1917. D 14, 3, 8. E Railways and labor; competition in the field of transportation; a national transportation plan. F Principles of railway transportation (A. W. Shaw, 1924); Inland transportation (McGraw-Hill, 1933). G SE.

MILLER, Stanley L., Dunn Loring Rd., Merrifield, Va. (1939)

MILLER, Taulman Allaire, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1936) A Indiana Univ., instr., T. B A.B., 1931, Amherst; M.A., 1934, Yale. D 18, 17, 10. E Economic effects of experience rating provisions of the Ind. Employ. Sec. Act (doctoral dissertation).

MILLIKAN, Max Franklin, Yale Univ., Dept. of Econ., New Haven, Conn. (1937) A **OPA, consultant, R;** Yale Univ., res. asso., TR. B B.S., 1935, Ph.D., 1941, Yale. C Framework of the theory of producers' sales policy with special reference to duopoly. D 1, 11, 4. E Determinants of business price and investment decisions; economic status and prospects of South America (with J. Hans Adler). F "Liquidity-preference theory of interest," A.E.R., June, 1938.

§**MILLIS, Harry Alvin,** NLRB, Shoreham Bldg., Washington, D.C. (1895)

MILLS, Frederick Cecil, Columbia Univ., New York City. (1920) A Columbia Univ., prof. of econ. and statis.; Nat. Bur. of Econ. Res., member of res. staff; TR. B B.L., 1914, M.A., 1916, California; Ph.D., 1917, Columbia. C Contemporary theories of unemployment (Columbia Univ. Press, 1917). D 5, 4, 1. E Prices in business cycles. F Statistical methods (Holt, rev. 1937); The behavior of prices (1927), Prices in recession and recovery (1937) (Nat. Bur. of Econ. Res.). G WS.

MILLS, John Achilles, 1019 13th St., Wilmette, Ill. (1941) A Lumbermens Mutual Cas. Co., Amer. Motorists Ins. Co., secy. and actuary, A. D 4, 9, 18.

MILLS, Mark Carter, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1923) A Indiana Univ., asso. prof., T. B A.B., 1916, Earlham; A.M., 1922, Indiana; Ph.D., 1924, Columbia. C The wood industries in New York and its environs (Reg. Plan of N. Y., 1924). D 6, 1, 10. E Business taxation. F Ed. (with George W. Starr), Readings in public finance and taxation (Macmillan, 1932); "Cultural lag and the general property tax," Soc. and Soc. Res., May-June, 1941; "Death and gift taxes," The Annals, Mar., 1941. G S.

MILNE, Matilda L., 427 Page Ter., South Orange, N.J. (1941)

MILROY, Robert Richardson, Bowling Green Col. of Com., Bowling Green, Ky. (1941) A Bowling Green Col. of Com., prof., T. B B.A., 1931, M.A., 1933, Ph.D., 1938, Iowa. C An investigation into the possibilities of investment analysis through the use of a statistical summary of economic magnitudes and forces. D 5, 9, 4. E Statistical analysis in business forecasting.

MINSKY, Hyman P., 40 Kirkland St., Cambridge, Mass. (1942)

MINTS, Lloyd Wynn, Univ. of Chicago, Chicago, Ill. (1922) A Univ. of Chicago, asso. prof., T. B A.B., 1914, A.M., 1915, Univ. of Colorado. D 7, 5, 6. E A history of banking theory. G S.

MISES, Ludwig (Edler von), 777 West End Ave., New York City. (1924) A **Nat. Bur. of Econ. Res., R.** B Doctor, 1906, Univ. of Vienna. D 1, 7, 5. E Evolution of German totalitarianism. F The theory of money and credit (Macmillan, 1934); Socialism, an economic and sociological analysis (Harcourt, Brace, 1936); Grundprobleme der Nationalökonomie (Jena, 1933). G I.

MITCH, George Frederick, 511 E. Hamilton Ave., State College, Pa. (1926) A Pennsylvania State Col., asso. prof. B A.B., 1910, Bucknell; M.A., 1914, Pennsylvania; B.D., 1914, Crozer Theo. Sem. D 9, 8, 7. E Branch banking in U.S. (doctoral dissertation); business organization in Pa. G SE.

MITCHELL, (Mrs.) Agnes Wilson, 240 East End Ave., Beaver, Pa. A Housewife. B B.A., 1930, Geneva Col.; M.A., 1932, Ph.D., 1939, Pittsburgh. C Labor relations in a large steel company. D 17, 2, 18.

MITCHELL, George Sinclair, 3246 Epworth Ave., Cincinnati, Ohio. (1931) A U. S. Dept. of Agric., Farm Sec. Admin., asst. admin., A. B B.A., 1923, Richmond; Ph.D., 1926, Johns Hopkins. C Textile unionism and the South (Univ. of North Carolina Press, 1930). D 10, 15, 16. F Black workers and the new unions (with Horace Cayton) (Univ. of North Carolina Press, 1939). G W.

MITCHELL, George W., 4717 Woodland Ave., Western Springs, Ill. (1930)

MITCHELL, Harry Adam, 2038 Pine St., New Orleans, La. (1933) A Tulane Univ., prof. of market., TR. B A.B., 1925, M.B.A., 1926, Michigan. D 12, 11, 17. E New Orleans as a wholesale trading center (doctoral dissertation).

MITCHELL, Hugh Chester, Jr., 1423 Buchanan St., N.W., Washington, D.C. (1932)

MITCHELL, James McC., 70 Oakland Pl., Buffalo, N.Y. (1914)

MITCHELL, Jonathan Nesbitt, Wheaton Rd., Kensington, Md. (1941) A **OPA, econ.;** T. B A.B., 1938, Univ. of South; M.B.A., 1940, Harvard. D 11, 10, 9. E Organization and policies of chemical industry (doctoral dissertation).

MITCHELL, Waldo F., 1508 N. 7th St., Terre Haute, Ind. (1920) A Indiana State Teachers Col., Dept. of Soc. Studies, head, T. B A.B., 1912, Indiana State Teachers Col.; A.M., 1913, Wisconsin; Ph.D., 1922, Chicago. C The uses of bank funds (Univ. of Chicago Press, 1925). D 7, 3, 17. F "Interest cost and the business cycle," A.E.R., June, 1926; "Indiana's growth, 1800-20," Ind. Mag. of Hist., 1914.

***MITCHELL, Wesley Clair,** 2 Horatio St., New York City. (1903) A Columbia Univ., prof. of econ., TR. B A.B., 1896, Ph.D., 1899, Chicago; LL.D., Chicago, California, Columbia, Princeton; D.Litt., Harvard; D.Sc., Pennsylvania. C A history of the legal-tender acts (Univ. of Chicago). D 1, 5, 2. E Cyclical behavior of economic activities; a typical business cycle. F Business cycles (Univ. of California Press, 1913); Business cycles: the problem and its setting (Nat. Bur. of Econ. Res., 1927); The backward art of spending money (McGraw-Hill, 1937). G WSIE.

MITTELMAN, Edward Becker, 2032 Belmont Rd., N.W., Washington, D.C. (1920) A **BEW, econ., R.** B A.B., 1914, Wisconsin; Ph.D., 1920, Chicago. C History of labor in the United States (Macmillan, 1920). D 17, 18, 10. E Character of data used by Wage and Hour Div. in determining wages. G S.

MODLIN, George Mathews, Univ. of Richmond,

Richmond, Va. (1940) **A** Univ. of Richmond, School of Bus. Admin., dean, TA. **B** B.A., 1924, Wake Forest; M.A., 1925, Ph.D., 1932, Princeton. **C** Industrial old age pensions. **D** 10, 14, 18. **F** Development of economic society (1937), Social control of industry (1938) (Little, Brown); "Old age reserve account," Law and Contemp. Prob., 1937.

MOE, Floyd Benjamin, Virginia Junior Col., Virginia, Minn. (1935) **A** Virginia Junior Col., dean, A. **B** B.A., 1922, M.A., 1925, Minnesota. **D** 17, 9, 6. **G** E.

MOFFAT, James Ernest, 925 E. Hunter Ave., Bloomington, Ind. (1915) **A** Indiana Univ., Dept. of Econ., head, prof., TA. **B** A.B., 1914, McMaster; A.M., 1916, Ph.D., 1924, Chicago. **C** The theory of diminishing returns: a history and criticism. **D** 1, 3, 10. **E** Early American economic literature; co-author of general text (in press, Crowell) and book on war economics (in press, Wiley). **G** S.

MOFFAT, Robert Elmer, Wartime Prices and Trade Bd., Res. and Statis. Div., Ottawa, Canada. (1942) **A Wartime Prices and Trade Bd., asst. econ., R. B** B.A., 1936, Brandon, Manitoba; M.A., 1940, Indiana. **D** 4, 8, 10.

MOGILNITSKY, Theodosi Alexis, Loyola Univ., 6525 Sheridan Rd., Chicago, Ill. (1935) **A** Loyola Univ., asst. prof., TR. **B** M.A., 1930, Ph.D., 1932, Johns Hopkins. **C** Money and banking in Soviet Russia. **D** 7, 1, 17. **E** Soviet theories of money and credit.

MOLONEY, John F., 731 Sterick Bldg., Memphis, Tenn. (1938) **A** Nat. Cottonseed Prod. Asso., econ., B. **B** A.B., 1931, A.M., 1935, Columbia. **D** 13, 12, 15. **F** "Cottonseed oil," Proceedings, First Cotton Res. Cong., 1941; "Some effects of Fair Labor Standards Act upon southern industry," S.E.J., 1942.

MOLYNEAUX, Peter, P.O. Box 2089, Dallas, Tex. (1942)

MONCHOW, Helen Corbin, Nat. Hous. Agency, Washington, D.C. (1929) **A** Nat. Hous. Agency, publications editor, A. **B** B.A., 1920, Mount Holyoke; M.A., 1928, Ph.D., 1937, Northwestern. **C** Seventy years of real estate subdividing in the region of Chicago (Northwestern Univ. Studies, 1939). **D** 16, 10, 2. **E** Use of deed restrictions in subdivision development. **F** The use of deep restrictions in subdivision development (Inst. for Res. in Land Econ. and Pub. Util., 1928); "Finding a base year for the study of urban problems," Jour. of Land and Pub. Util. Econ., Aug., 1929.

MONROE, Arthur Eli, D-21 Kirkland House, Cambridge, Mass. (1915) **A** Harvard Univ., lecturer, T. **B** A.B., 1908, A.M., 1914, Ph.D., 1918, Harvard. **C** Monetary theory before Adam Smith (Harvard Univ. Press, 1923). **D** 1, 7, 6. **F** Early economic thought (1924), Value and income (1931) (Harvard Univ. Press). **G** S.

MONTAGUE, Gilbert Holland, 67 Wall St., New York City. (1926) **A** Lawyer. **B** A.B., 1901, A.M., 1902, LL.B., 1904, Harvard. **D** 11, 10. **F** Rise and progress of the Standard Oil Company (1903); Trusts of today (1904); Business competition and the law (1917). **G** W.

MONTGOMERY, Royal E., Cornell Univ., Dept. of Econ., Ithaca, N.Y. (1931)

MOONITZ, Maurice, Univ. of Santa Clara, Santa Clara, Calif. (1935) **A Stanford Univ., acting instr., T**; Univ. of Santa Clara, asst. prof., T. **B** B.S., 1933, M.S., 1936, Ph.D., 1941, California. **C** Obsolescence, industrial policy, and the problem of economic stability. **D** 4, 5, 11. **F** "Mutual stockholdings in consolidated statements," Jour. of Accountancy, Oct., 1939; "Limitations on the use of accounting data in cost analysis," Proceedings, Pacific Coast Econ. Asso., Dec., 1941.

MOORE, Charles Walden, 2500 Q St., N.W., Apt. 109, Washington, D.C. (1939) **A WPB, Div. Statis., sec. chief, RA**; Harvard Univ., Grad. School of Bus. Admin., Bur. of Bus. Res., chief, RA. **B** M.B.A., 1937, D.C.S., 1940, Harvard. **C** A history of the Waltham Watch Company, 1844-1938. **D** 11, 2, 4. **E** Military and civilian requirements for commercial products.

MOORE, Floyd Wayne, Western Michigan Col., Kalamazoo, Mich. (1927) **A** Western Michigan Col., chmn. of dept. **B** A.B., 1910, Albion; A.M., 1922, Michigan; Ph.D., 1941, Northwestern. **C** Kalamazoo, Michigan: the evolution of a modern city free from general fund indebtedness. **D** 1, 10, 12.

MOORE, Henry Ludwell, Cornwall, N.Y. (1896) **A** R. **D** 3, 1, 4. **E** Good life in a progressive democracy. **G** WSE.

MOORE, Justin Hartley, Culiacan No. 41, Mexico, D.F. (1920) **A** B. **B** A.B., 1903, City of New York; A.M., 1904, Ph.D., 1908, Columbia; LL.M., J.D., 1913, New York. **D** 9, 7, 8. **F** Handbook of financial mathematics (1929), The gist of mathematics (with J. A. Mira) (1942) (Prentice-Hall). **G** S.

MOORE, W. J., Eastern Teachers Col., Richmond, Ky. (1934)

MOORE, William H., 1 Scott Circle, Washington, D.C. (1934) **A** Office of Alien Property Custodian, prin. bus. anal., RA. **B** B.S., 1923, Iowa; Ph.D., 1938, Chicago. **C** Economics of railroad financial reorganization. **D** 9, 7, 4. **E** Factors in determination of capitalization rate; philosophy of amortization-loan contracts. **F** The reorganization of railroad corporations (Amer. Coun. on Pub. Affairs, Dec., 1941); "Railroad fixed charges in bankruptcy," J.P.E., Feb., 1939.

MOORHOUSE, Llewellyn A., State Agric. Col., Fort Collins, Colo. (1922) **A** Colorado State Col. of A. and M.A., Dept. of Econ., Soc., and Hist., head, prof., TRA. **B** B.S.A., 1902, Toronto; M.S., 1906, Illinois. **D** 15, 12. **E** Type of farming; farm and ranch organization and management; farm tenancy; agricultural credit. **F** The management of the farm (Appleton, 1925); contributor to bulletins of U. S. Dept. of Agric., 1918-21, and of Colo. Exp. Sta., 1925-35. **G** S.

MOREHOUSE, Edward Ward, 55 Westcott Rd., Princeton, N.J. (1925) **A WPB, Power Br., asst. chief, A**; Trustees, Asso. Gas and Elec. Corp., chief econ., B. **B** B.A., 1918, Amherst; M.A., 1920, Ph.D., 1927, Wisconsin. **C** Industrial law in the making. **D** 14, 10, 4. **E** Integration and reorganization plan for "Associated System." **F** Co-author, Elements of land economics (Macmillan, 1924); "Innovations in public utility accounting," Yale Law Jour., 1937. **G** WS.

MOREY, Lloyd, Univ. of Illinois, Urbana, Ill. (1942)

MORGAN, Charles Stillman, 5721 Chevy Chase Pkwy., N.W., Washington, D.C. (1917) **A** Interstate Com. Com., Bur. of Motor Carriers, asst. dir.; American Univ., Grad. School., lecturer on transp.; RA. **B** A.B., 1914, Michigan; Ph.D., 1920, Yale. **C** Regulation and the management of public utilities (Houghton Mifflin, 1923). **D** 14, 10, 4. **E** Investigations in transportation. **F** St. Lawrence navigation and power project (with H. G. Moulton and A. L. Lee) (Brookings, 1929); Comparative labor standards in transportation (Fed. Co-ord. of Transp., 1937); Public aids to transportation (Fed. Co-ord. of Transp., 4 vols., 1940). **G** WSIE.

MORGAN, George A., Room 1649, 122 S. Michigan Ave., Chicago, Ill. (1940)

MORGAN, Gerald, Hyde Park, N.Y. (1920) **A** Soc. Sec. Bd., consultant, R. **B** B.A., 1901, Yale. **D** 18. **F** Public relief of sickness (Macmillan, 1923).

***MORGAN, John Pierpont,** 23 Wall St., New York City. (1913)

MORGAN, (Joseph) Theodore, Randolph-Macon Woman's Col., Lynchburg, Va. (1941) **A** Randolph-Macon Woman's Col., asst. prof., T. **B** A.M., 1931, Ohio State; M.A., 1940, Ph.D., 1941, Harvard. **C** The development of the Hawaiian economy. **D** 5, 1, 6. **E** Problem of secular unemployment of resources; postwar economic organization; dynamic change and monopolistic competition. **F.** The cost of the war (Sweet Briar Col. Inst., May, 1942).

MORGAN, Lorne Thompson, Univ. of Toronto, Dept. of Polit. Econ., Toronto, Canada. (1932) **A** Univ. of Toronto, asso. prof. of polit. econ., TR. **B** B.A., 1924, British Columbia; M.A., 1925, Ph.D., 1930, California. **C** Entrepreneurial function in economic theory. **D** 3, 2, 17. **E** Fascism: origins, development, theory, institutions; state intervention in economic life. **F** "Origins and development of Fascism," in Essays in political economy (Univ. of Toronto Press, 1938); "State and eco-

nomic life in Fascist Italy," Univ. of Toronto Quar., July, 1940; "Economic aspects of Italian neutrality," Commerce Jour. (Univ. of Toronto), Mar., 1940.

MORGAN, Ora Sherman, Columbia Univ., School of Business, New York City. (1933)

MORGNER, Aurelius, 619 9th Ave., S.E., Minneapolis, Minn. (1941) **A** Univ. of Minnesota, Employ. Stabilization Res. Inst., R. **B** B.S.B.A., 1938, M.A., 1940, Missouri. **D** 17, 1, 11. **E** Demand for labor in an urban labor market.

MORLEY, Burton Raymond, Box 1994, University, Ala. (1941) **A** Univ. of Alabama, prof. of econ., T. **B** A.B., 1922, West Virginia; A.M., 1925, Ph.D., 1930, Pennsylvania. **C** Characteristics of applicants for work in Philadelphia, 1928 (privately pub., 1931). **D** 17, 18, 16. **F** Characteristics of Alabama labor market (Bur. of Bus. Res., Univ. of Alabama, 1937). **G** WS.

MORRILL, Chester, Secy., Fed. Res. Bd., Washington, D.C. (1924)

MORRIS, Bruce Robert, 113 E. Main St., Girard, Ohio. (1935) **A** Washington and Jefferson Col., asst. prof., T. **B** A.B., 1931, Western Reserve; M.A., 1932, Ohio State; Ph.D., 1937, Illinois. **C** Economics of the taxation of chain stores. **D** 6, 1, 4.

MORRIS, Homer Lawrence, Plush Mill Rd., Wallingford, Pa. (1933)

MORRIS, Maxwell Hunter, 460 E. 15th Ave., Eugene, Ore. (1938) **B** B.S., 1940, Oregon. **D** 1, 10, 8. **E** Economic factors influencing property rights between the years 1787 and 1837 (master's thesis).

MORRIS, Victor Pierpont, Univ. of Oregon, Eugene, Ore. (1926) **A** Univ. of Oregon, School of Bus. Admin., dean, TRA. **B** B.A., 1915, M.A., 1920, Oregon; Ph.D., 1930, Columbia. **C** Oregon's experience with minimum wage legislation (Columbia Univ. Press, 1930). **D** 8, 1, 6. **E** Economic problems of the Pacific; trade agreements and their effect in the Northwest. **G** WS.

MORRISON, Jay, 1221 3rd Ave., W., Seattle, Wash. (1935). **A** Boeing Aircraft Co., prod. mgr., A. **B** A.B., 1911, Harvard. **D** 1, 8, 7.

MORRISON, Loyle Alexander, 1616 S. Lynn St., Arlington, Va. (1923)

MORRISON, Paul Leslie, 2115 Central Park Ave., Evanston, Ill. (1928) **A** Northwestern Univ., Fin. Dept., chmn., prof., Investment Dept. of Bus. Office, mgr.; TB. **B** A.B., 1921, DePauw; M.B.A., 1922, Ph.D., 1927, Northwestern; C.P.A., 1923, Illinois. **C** Public utility holding companies: a study of trading on the equity. **D** 9, 4, 14. **E** Investment value of common stocks. **F** Principles of accounting (with E. L. Kohler) (McGraw-Hill, rev. 1934); "Some economic aspects of public utility holding company financial statements," Jour. of Land and Pub. Util. Econ., Feb. and May, 1928; "Interest of the investor in financial statements," Acctg. Rev., Mar., 1937. **G** S.

MORRISON, Vernon Guy, 44 W. Norris Rd., Box 174, Norris, Tenn. (1936) **A** TVA, asso. econ., R. **B** B.S., 1925, M.A., 1926, Nebraska. **D** 6, 10, 17. **E** Assessment of property in Tenn. **F** Assessment of property in Tennessee (Tenn. Municipal League, June, 1942).

MORRISSY, Elizabeth, 332 Paddington Rd., Baltimore, Md. (1941)

MORROW, Curtis Hugh, 3 West Ct., Waterville, Me. (1922) **A** Colby Col., T. **B** A.B., 1910, A.M., 1911, Ph.D., 1927, Clark Univ., Worcester. **C** Politico-military secret societies of the Northwest during the Civil War. **D** 1, 20, 2. **E** Population composition of Waterville, Me. **G** WSE.

MORS, Wallace Peter, 5425 Dorchester Ave., Chicago, Ill. (1940) **A** DePaul Univ., asst. prof. **B** Ph.B., 1932, A.M., 1935, Chicago; C.P.A., 1937, Illinois. **D** 9, 7, 17. **E** Theories of consumer credit (doctoral dissertation).

MORSE, Herbert Carpenter, 4108 N. Henderson Rd., Arlington, Va. (1940) **A OPA, asso. econ., R. B** A.B., 1932, Oberlin; M.A., Columbia. **D** 1, 10, 12. **E** Trade-marks and names; unfair and monopolistic competition.

MORSE, Hermann Clare, 1335 W. Hollywood Ave., Chicago, Ill. (1929) **A** Chicago Title and Trust Co., final exam., B. **B** B.A., 1909, King's Col., Nova Scotia; LL.B., 1913, Dalhousie. **D** 1, 8, 3.

MORSE, Richard L., 207 Agric. Annex, Ames, Iowa. (1941) **A** Iowa Agric. Exp. Sta., res. asso., RA. **B** B.A., 1938, Wisconsin. **D** 19, 12, 4. **E** Economizing in transportation and processing of agricultural products; egg marketing in Iowa with special reference to consumer's practices and preferences (doctoral dissertation).

MORSON, William Taylor, 203 Cathedral Ave., Hempstead, N.Y. (1937) **A** Retired. **B** A.B., 1922, LL.B., 1924, A.M., 1934, Columbia. **D** 9, 7, 6.

MORSS, Noel, 568 South St., Needham, Mass. (1933) **A Cumberland Corp., treas.;** law practice; B. **B** A.B., 1926, LL.B., 1929, Harvard. **D** 1, 10, 16. **F** "Distribution equilibrium under specific productivity theory," Q.J.E., 1927.

MORTARA, Giorgio, Comissão Censitária Nacional, Avenida Pasteur, 404, Rio de Janeiro, Brazil, S. Amer. (1941)

MORTENSON, William Peter, Univ. of Wisconsin, Agric. Hall, Madison, Wis. (1935) **A WPB, prin. econ., RA;** Univ. of Wisconsin, asso. prof. of agric. econ., TR. **B** B.S., 1921, M.S., 1923, North Dakota State Col.; Ph.D., 1931, Minnesota. **C** An economic study of the Milwaukee milk market. **D** 15, 4, 12. **E** Trends of dairying in the U.S. **F** Milk distribution as a public utility (Univ. of Chicago Press, 1940); Economic considerations in marketing fluid milk (1936), History of Wisconsin farm prices (1934) (Univ. of Wisconsin Press).

MORTHLAND, Rex J., Univ. of Connecticut, Storrs, Conn. (1942) **A U. S. Army, Inf. Capt.;** Univ. of Connecticut, asst. prof., TR. **B** A.B., 1933, California at Los Angeles; M.A., 1934, California. **D** 6, 1, 17. **E** Economic problems of municipal indebtedness. **F** "Bonded indebtedness of local governments, 1927-40," in Survey of local finance in Illinois (Vol. V, Ill. Tax Com., 1940); contributor, State-local fiscal relations in Illinois (Univ. of Chicago Press, 1941).

MORTON, Joseph Edward, Knox Col., Galesburg, Ill. (1936) **A Nat. Bur. of Econ. Res., R;** Knox Col., asso. prof. of statis. and econ., TR. **B** J.D., 1930, King Charles Univ., Prague; D.Sc. (Econ.), 1935, Univ. of Geneva, Switzerland. **C** L'Employé privé, Étude Sociographique et Statistique Rivière (Paris, 1935). **D** 4, 5, 8. **E** Behavior of prices in the business cycle; economic regionalism, Middle West. **G** I.

MORTON, Walter Albert, Univ. of Wisconsin, Sterling Hall, Madison, Wis. (1928) **A** Univ. of Wisconsin, prof. of econ., TR. **B** A.B., M.A., 1924, Michigan; Ph.D., 1927, Wisconsin. **C** The formation of capital. **D** 7, 1, 5. **E** Economic method. **F** British finance, 1930-40 (Univ. of Wisconsin Press, 1942); "Liquidity and solvency," A.E.R., June, 1939; "A zero deposit rate," A.E.R., Sept., 1940. **G** S.

MOSAK, Jacob Louis, 4200 Russell Ave., Mt. Rainier, Md. (1940) **A OPA, Res. Div., Fiscal and Monetary Sec., chief, RA;** Univ. of Chicago, instr., TR. **B** A.B., 1935, Ph.D., 1941, Chicago. **C** General equilibrium theory in international trade (to be pub.). **D** 1, 4, 5. **E** Fiscal policy to curb inflation. **F** "Interrelations of production, price and derived demand," J.P.E., Dec., 1938; "Standard error of coefficient of elasticity of demand," Jour. of Amer. Statis. Asso., June, 1939. **G** S.

MOSK, Sanford Alexander, Univ. of California, Dept. of Econ., Berkeley, Calif. (1936) **A** Univ. of California, asst. prof., T. **B** B.S., 1927, Ph.D., 1931, California. **C** Spanish voyages and pearl fisheries in the Gulf of California: a study in economic history. **D** 2, 16, 8. **E** Economic history of California; cultural factors in the economic development of the Southwest. **F** Contributor, Report of California State Unemployment Commission (Calif. State Printer, 1933); "Railroad to Utopia," Southwestern Soc. Sci. Quar., 1939; "Price-fixing in Spanish California," Calif. Hist. Soc. Quar., 1938. **G** S.

MOSSÉ, Robert, 144-04 76th Rd., Kew Gardens Hills, L.I., N.Y. (1942) **A New School for Soc. Res., asso. prof., TR;** Univ. of Grenoble, Faculty of Law, prof., TR. **B** Doc., 1929, Univ., Lyons; Agrégation, 1938, Univ. of Paris. **C** Compulsory unemployment insurance (Dalloz, Paris, 1929). **D**

10, 17, 1. E Public control of production and consumption in France, 1940-42. F L'economie collectiviste (Librarie Génèrale de Droit, Paris, 1939); Economie et legislation industrielles (Editions Montaigne, Paris, 1940); "Economie militaire," Rev. des Sciences economiques (Liège), 1938.

MOULTON, Harold Glenn, 722 Jackson Pl., N.W., Washington, D.C. (1911) A Brookings Inst., pres., RA. B Ph.B., 1907, Ph.D., 1914, LL.D., 1937, Chicago; LL.D., Washington Univ., New York, Pittsburgh, George Washington, Syracuse, Northeastern. C Waterways vs. railways (Houghton Mifflin, 2nd ed., 1925). D 3, 8, 6. F Financial organization of society (rev. 1938); Formation of capital (1935); Capital expansion, employment, and economic stability (1940). G WSIE.

MOWBRAY, A(lbert) H(enry), Univ. of California, 119 South Hall, Berkeley, Calif. (1924) A Univ. of California, prof. of ins., T. B A.B., 1904, California; Fellow, 1910, Actuarial Soc. of Amer. D 9, 18, 4. E Pensions and workmen's compensation. F Insurance (McGraw-Hill, 2nd ed., 1937). G SE.

MUCHA, Frank A., Fed. Housing Admin., New P.O. Bldg., Los Angeles, Calif. (1940)

MUDGE, Edmund Webster, 1000 Morewood Ave., Pittsburgh, Pa. (1934)

MUDGETT, Bruce D., Univ. of Minnesota, Minneapolis, Minn. (1918) A Univ. of Minnesota, prof. of econ. and statis., T. B B.A., 1908, Idaho; Ph.D., 1913, Pennsylvania. C Disability provision in American life insurance contracts (Amer. Acad. of Polit. and Soc. Sci., 1915). D 4, 1, 9. E Analysis of prices. F Reliability of forest surveys (Jour. of Amer. Statis. Asso., Sept., 1934); Statistical tables and graphs (Houghton Mifflin, 1930). G WS.

MUELLER, Frederick William, Jr., De Paul Univ., School of Commerce, 64 E. Lake St., Chicago, Ill. (1935) A De Paul Univ., asst. prof. B B.A., 1925, Minnesota; LL.B., 1929, Kent Col. of Law; M.B.A., 1933, Northwestern. D 7, 9, 4. E Earning asset policies of 41 Chicago state banks (doctoral dissertation).

MULLENBACH, Philip, 2601 16th St., S., Apt. 610, Arlington, Va. (1942) A War Dept., econ. B A.B., 1934, Chicago. D 13. E Economics of the magnesium industry.

MULLIKEN, Jean Hayden (Mrs. Otis E.), 6429 31st Pl., N.W., Washington, D.C. (1942) A State Dept., div. asst. B A.B., 1927, M.A., 1928, Univ. of Colorado; Ph.D., 1937, Harvard. C Competitive conditions in the long staple cotton trade, with special reference to the tariff. D 8, 6, 4.

MULLIKEN, Otis Emery, 6429 31st Pl., N.W., Washington, D.C. (1939) A U. S. Dept. of Agric., prin. econ., A. B A.B., 1928, M.A., 1934, Ph.D., 1942, Harvard. C The Massachusetts Board of Conciliation and Arbitration. D 17, 18, 15.

MULVIHILL, Donald Ferguson, 5529 4th St., S., Arlington, Va. (1941) A OPA, asso. bus. econ., R; Univ. of Alabama, instr., T. B B.S., 1933, M.S., 1940, Illinois; M.A., 1937, Chicago. D 12, 11, 19. E Price determination in the kraft paper industry (doctoral dissertation).

MUND, Vernon Arthur, Univ. of Washington, Seattle, Wash. (1929) A Univ. of Washington, prof. of econ., TR. B B.A., 1928, M.A., 1929, Univ. of Washington; Ph.D., 1932, Princeton. C Monopoly—a history and theory (Princeton Univ. Press, 1933). D 1, 11, 10. F "Prices under competition and monopoly," Q.J.E., Feb., 1934; "Financial adjustment in the empirical law of cost," A.E.R., Mar., 1936; "The freight allowed method of price quotation," Q.J.E., Feb., 1940. G SE.

MUNK, Frank, Univ. of California, Dept. of Econ., Berkeley, Calif. (1941) A Univ. of California, lecturer, TR. B M.Com., 1922, S.C.D., 1936, Prague Univ. Col. of Commerce. C Problem of distribution and distribution costs (Socialní Problémy, Prague, 1935). D 3, 8, 12. E Effects of totalitarian economy on structure of European economics. F Economics of force (G. Stewart, 1940); "Business confidence as postwar factor." Proceedings, Pacific Coast Econ. Asso., Dec., 1941. G W.

MUNTZ, Earl Edward, New York Univ., School of Com., Dept. of Econ., Washington Sq., New York City. (1923) A New York Univ., prof., T. B B.A., 1917, Baldwin-Wallace; M.A., 1921, Ph.D., 1925, Yale. C Race contact (Appleton-Century, 1927). D 18, 17, 20. F Urban sociology (Macmillan, 1938); co-author, Economic principles and problems (Farrar and Rinehart, 4th ed., 1940). G S.

MURAD, Anatol, Univ. of Southern California, Los Angeles, Calif. (1941) A Univ. of Southern California, asst. prof. of econ., T. B B.S., 1931, M.S., 1932, Ph.D., 1939, Columbia. C The paradox of a metal standard (Graphic Arts Press, 1939) D 1, 7, 5. E Evolution of monetary institutions.

MURCHISON, Claudius Temple, Cotton Textile Inst. 320 Broadway, New York City. (1928)

MURDOCH, Arthur Edward, 115 Evans Ave., Alamo Hghts., San Antonio, Tex. (1911) A Retired.

MURPHY, Henry Clifford, U. S. Treas. Dept., Div. of Res. and Statis., Washington, D.C. (1926) A U. S. Treas. Dept., asst. dir. of res. and statis., R. B A.B., 1926, California at Los Angeles; M.A., 1927, California. D 6, 7, 1.

MURPHY, Mary E., 106 Morningside Dr., New York City. (1935) A Hunter Col., Econ. Dept., TR. B B.S.C., Iowa, 1927; M.S., 1928, Columbia; Ph.D., 1939, London School of Econ. C The responsibility of the public accountant to society—a contrasted study of British and American accountancy and finance (mono., Amer. Acctg. Asso., 1942). D 10, 4, 11. E British and American war economy; war economics, accountancy and finance. F The profession of accountancy in England (mono., Amer. Acctg. Asso., 1942); Internal check and control (Pub. Affairs Press, 1941); "The war and British workers," Harvard Bus. Rev., Autumn, 1941.

MURRAY, Evan Bailey, Utah State Agric. Col., Logan, Utah. (1940) A Utah State Agric. Col., asso. prof., T. B B.S., 1927, M.S., 1930, Utah State Agric. Col. D 17, 7, 1. E History of labor organizations in Utah. F "Collective bargaining and war," Proceedings, Pacific Coast Econ. Asso., Mar., 1942.

MURRAY, Janet Helen, Western Col., Oxford, Ohio. (1941) A Western Col., instr., T. B A.B., 1926, Vassar; A.M., 1930, Stanford. D 19, 4, 2. E Family expenditures in terms of income elasticities (doctoral dissertation). F A study of factors affecting the price of dry edible beans (U. S. Dept. of Agric., 1938); Changes in assets and liabilities of families (with others) (U. S. Dept. of Agric., 1941).

MURRAY, Merrill Garver, 6607 Delfield St., Chevy Chase, Md. (1933) A Soc. Sec. Bd., Bur. of Old-Age and Survivors Ins., Anal. Div., asst. dir., R. B A.B., 1922, DePauw; Ph.M., 1929, Ph.D., 1936, Wisconsin. C Unemployment compensation in the United States. D 18, 17, 20. F A new plan for unemployment reserves (Univ. of Minnesota Press, 1933); Program of unemployment insurance and relief (Univ. of Minnesota Press, 1934). G S.

MURRAY, William Gordon, Iowa State Col., 207 Agric. Annex, Ames, Iowa. (1927) A Iowa State Col., prof., TR. B B.A., 1924, Coe; M.A., 1925, Harvard; Ph.D., 1932, Minnesota. C Economic analysis of farm mortgages in Story County, 1854-1931 (Iowa Agric. Exp. Sta. Bul. 156, 1933). D 15, 7, 2. E Land valuation; farm credit studies. F Agricultural finance (1941), Farm appraisal (1940) (Iowa State Col. Press). G SE.

MUSBACH, William Frederic, 1007 26th Rd. S., Arlington, Va. (1942) A U. S. Dept. of Agric., sr. land econ., R. B B.S., 1935, William and Mary. D 15, 16, 10. F Land classification for land use planning in the cutover region of the Lake States (Resettlement Admin., 1936).

MUSGRAVE, Richard Abel, Fed. Res. System, Bd. of Gov., Washington, D.C. (1937) A Fed. Res. System, econ., R. B A.M., 1936, Ph.D., 1937, Harvard. C Theory of taxation. D 6, 7, 1. E Theory of public finance. F "Voluntary exchange theory of public economy," Q.J.E., Feb., 1939; "The nature of budgetary balance and the case for the capital budget," A.E.R., June, 1939; "Deficit spending, the case examined," in Pub. policy (Harvard Univ. Press, 1941). G S.

MUSSELMAN, Robert Metcalfe, Box 1211, University, Va. (1941) A Univ. of Virginia, instr. in acctg., T. B B.S., 1934, M.A., 1940, Virginia. D 4, 6, 10. E Influence of SEC regulation on the

development of accounting theory and practice (doctoral dissertation).

MYERS, A(aron) Howard, 619 Old South Bldg., Boston, Mass. (1931) A NLRB, reg. dir., A. B A.B., 1926, Cornell; M.A., 1932, Ph.D., 1933, Columbia. C Administration of municipal sinking funds in New York State (Conf. of Mayors, Albany). D 17, 10, 6. E Labor relations—laws and men. F "Wages in the recovery period," The Annals, Mar., 1936; "The NLRA in strike situations," Apr., 1938, "Interference in labor relations acts," Apr., 1939, Boston Univ. Law Rev. G W.

MYERS, Charles Andrew, M.I.T., Dept. of Econ. and Soc. Sci., Cambridge, Mass. (1936) A **WPB, sr. labor consultant;** M.I.T., asst. prof., TR. B A.B., 1934, Pennsylvania State Col.; Ph.D., 1939, Chicago. C Employment stabilization and the Wisconsin Act (Soc. Sec. Bd., Employ. Sec. Memo., 1940). D 17, 18, 11. E Mobility of labor within a diversified labor market (with W. Rupert Maclaurin). F "Employment stabilization and the Wisconsin Act," A.E.R., Dec., 1939; co-author, Industrial wage rates, labor costs, and price policies (TNEC, 1940), "After unemployment benefits are exhausted," Q.J.E., Feb., 1942.

MYERS, Howard Barton, 405 Cleave Dr., Falls Church, Va. (1927) A **WPB, Div. of Statis., Munitions Br., asso. chief,** R. B A.B., 1923, Washburn; Ph.D., 1929, Chicago. C Policing of labor disputes in Chicago: a case study. D 17, 18, 4. G S.

MYERS, John Holmes, 36 Dartmouth, Buffalo, N.Y. (1942) B B.S.C., 1937, M.B.A., 1938, Northwestern. D 9, 4. E Stock market reaction to corporate expansion by security issues. F Market action of new issues," Com. and Fin. Chron., Feb. 15, 1941.

MYERS, Margaret Good (Mrs. B. H. Beckhart), Vassar Col., Poughkeepsie, N.Y. (1941) A Vassar Col., asso. prof. of econ., T. B A.B., 1920, Barnard; M.A., 1922, Ph.D., 1931, Columbia. C The New York money market: origins and development to 1913 (Columbia Univ. Press, 1931). D 7, 4, 2. E Development of investment banking in the U.S. F Paris as a financial centre (London, P. S. King and Son, 1935); Monetary proposals for social reform (Columbia Univ. Press, 1940). G S.

MYERS, Robert James, U. S. Bur. of Labor Statis., Div. of Wage Anal., Washington, D.C. (1934) A U. S. Bur. of Labor Statis., Div. of Wage Anal., chief, R. B A.B., 1926, Washburn; M.A., 1928, Ph.D., 1937, Chicago. C Economic aspects of the production of men's clothing. D 17, 4, 18. E Causal factors in wage differentials; the wage structure of leading industries. F "Collective bargaining in the men's clothing industry," in volume in press (Twentieth Cent. Fund, 1942); "Effects of a minimum wage in cotton garment industry," Monthly Labor Rev., Feb., 1942; "Occupational readjustment of displaced, skilled workmen," J.P.E., Aug., 1929. G S.

MYERS, Walter Raleigh, Univ. of Minnesota, 114 V.H., Minneapolis, Minn. (1922) A Univ. of Minnesota, School of Bus. Admin., asso. prof. of econ. and fin., T. B Ph.B., 1903, Northwestern; Ph.D., 1909, Chicago. C Technique of bridging gaps in the action in German drama. D 7, 8, 5. E South American banking. G S.

NADLER, Marcus, 90 Trinity Pl., New York City. (1924) A New York Univ., prof. of fin., T. B B.S., 1922, Columbia; J.D., 1926, New York. D 7, 8, 9. F International money markets (with J. T. Madden) (Prentice-Hall, 1935); Foreign securities (with J. T. Madden) (Ronald Press, 1929). G W.

NAHL, Perham C., Oklahoma A. and M. Col., School of Com., Stillwater, Okla. (1936)

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NATHAN, Otto, 55 E. 10th St., New York City. (1931) A New York Univ., asso. prof., TR B Ph.D., 1920, Univ. of Wurzbourg, Germany. C Grundsätzliches über die Zusammenhänge zwischen Volkswirtschaft und Steuern (Jahrbücher für Nationalökonomie und Statistik, 1921). D 5, 8, 17. E Book on war economy in Germany; future of international trade. F Die Wirtschaft des Auslands (Reimar Hobbing, Berlin, rev. 1929); "Consumer spending, inflation, and the wage earner in the United States" (with Milton Fried), Int. Labor Rev., 1942; "Consumption in Germany during the period of rearmament," Q.J.E., 1942. G SI.

NATHAN, Robert Roy, WPB, Soc. Sec. Bldg., Washington, D.C. (1937) A **WPB, Plan. Com., chmn., A;** R. B B.S. in Econ., 1931, M.A., 1933, Pennsylvania; LL.B., 1938, Georgetown Univ. D 3, 10, 19. F National income in the United States, 1929-35 (Gov. Print. Office, 1936); articles on national income, wealth, debt, and government expenditures, Ency. Britannica Year Book; "Estimates of unemployment in the United States, 1929-35," Int. Labor Rev., 1936. G WS.

NEAL, Alfred C., Brown Univ., Dept. of Econ., Providence, R.I. (1941) A Brown Univ., asst. prof. B A.B., 1934, California; Ph.D., 1941, Brown. C Industrial concentration and price inflexibility (Amer. Coun. on Pub. Affairs, 1942). D 1, 10, 11. E Revision of Introduction to war economics; a cyclically sensitive price index. F Ed. and co-author, Introduction to war economics (R. D. Irwin, 1942); "Marginal cost and dynamic equilibrium of the firm," J.P.E., Feb., 1942.

NEF, John Ulric, Univ. of Chicago, Chicago, Ill. (1929) A Univ. of Chicago, prof. of econ. hist.; Com. on Study of Civilization, secy.; RT. B S.B., 1920, Harvard; Ph.D., 1927, Brookings. C The British coal industry in the sixteenth and seventeenth centuries (pub. as The rise of the British coal industry, London, 1932). D 2, 10, 1. E War and rise of industrialism in Europe, 1540-1940; industry and civilization, 1540-1640. F Industry and government in France and England, 1540-1640 (Amer. Phil. Soc., 1940); The United States and civilization (Univ. of Chicago Press, 1942). G WSE.

NEIFELD, Morris R., 15 Washington St., Newark, N.J. (1924) A **Univ. of Newark, lecturer in econ., T;** Beneficial Manage. Corp., econ., RAB. B A.B., 1913, Cornell; M.S., 1916, Columbia; Ph.D., 1922, New York. C Negro in the United States. D 7, 4, 19. E Consumer credit. F The personal finance business (1933), Co-operative consumer credit (1936), Personal finance comes of age (1939) (Harper). G S.

NEISSER, Hans Philipp, OPA, Div. of Res., Tempo. S, Washington, D.C. (1933) A **OPA, Div. of Res., Price Policy Sec., chief, R;** Univ. of Pennsylvania, prof., T. B U.J.D., 1919, Soc.Sc.D., 1921, Univ. of Breslau. C Das Gesetz vom abnehmenden Bodenertrag und die volkswirtschaftliche Entwicklung (Archiv für Soz.-Wiss., 1921). D 7, 1, 5. E Book on theory of money. F Tauschwert des Geldes (S. Fischer, 1927); Some international aspects of the business cycle (Univ. of Pennsylvania Press, 1936). G S.

NELSON, Carl Leroy, Univ. of Nebraska, Col. of Bus. Admin., Lincoln, Neb. (1934) A Univ. of Nebraska, asst. prof., T. B B.B.A., 1931, Minnesota. D 4, 6, 9. E Capital formation by electrical utilities. F Sales taxes (League of Minn. Municipalities, 1935).

NELSON, Edward Gene, Stanford University, Calif. (1938)

§**NELSON, Godfrey Nicholas,** 229 W. 43rd St., New York City. (1942) A New York Times, exec., attorney, B. D 6, 10, 3. E Regular contributor on taxes and economics, New York Times. G W.

NELSON, James Cecil, 97 Kenilworth Ave., Garrett Park, Md. (1936) A **Bd. of Investigation and Res., asst. dir. of res., pub. control, R;** R. B B.A., 1930, Univ. of Washington; M.A., 1931, Ohio State; Ph.D., 1934, Virginia. C Motor transport regulation in the United States. D 14, 11, 1. E Rate control standards for economic allocation of resources in transportation; effects of minimum rate regulation by I.C.C. F "The Motor Carrier Act of 1935," J.P.E., Aug., 1936; "Co-ordination of transportation by regulation," Jour. of Land and Pub. Util. Econ., May, 1938; New concepts of transport regulation (Nat. Res. Plan. Bd., in press). G S.

NELSON, Peter, Oklahoma A. and M. Col., Stillwater, Okla. (1929)

NELSON, Richard Ward, U. S. Forest Serv., Div. of Forest Econ., Washington, D.C. (1922) **A** U. S. Dept. of Agric., Forest Serv., Div. of Forest Econ., chief, A. **B** B.S.C., 1921, M.A., 1923, Ph.D., 1929, Iowa. **C** Assessment of real estate in Iowa and other Midwestern states (Univ. of Iowa, 1931). **D** 15, 16, 1. **F** Banking and business cycles (Macmillan, 1936); contributor, Studies in income and wealth (Nat. Bur. of Econ. Res., 1938); "Forest taxation in North Carolina," in Report of N.C. Class. Amend. Com., 1938. **G** S.

NERLOVE, Samuel Henry, 134 N. La Salle St., Chicago, Ill. (1923) **A** Univ. of Chicago, asso. prof. of bus. econ., TR. **B** A.M., 1923, Chicago. **D** 1, 9, 5. **E** American economy in war; war finance and stock market; business economics. **F** The outlines of the economic order (Univ. of Chicago Press, 1930); "A decade of corporate incomes, 1920-29," 1930, "War expansion and price inflation," Apr., 1942, Jour. of Bus. (Univ. of Chicago). **G** S.

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NEWCOMER, Mabel, Vassar Col., Poughkeepsie, N.Y. (1915) **A** Vassar Col., prof., T. **B** A.B., 1913, A.M., 1914, Stanford; Ph.D., 1917, Columbia. **C** Separation of state and local revenues in the United States (1917). **D** 6. **E** Intergovernmental fiscal relations. **F** Central and local finance in Germany and England (Columbia Univ. Press, 1937); co-author, Facing the tax problem (Twentieth Cent. Fund, 1937); Taxation and fiscal policy (Columbia Univ. Press, 1940). **G** WS.

NEWMAN, Clarence William, 111 N. 5th St., Richmond, Va. (1931)

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NEWMAN, Philip Charles, 723 Kearney St., N.E., Washington, D.C. (1942) **A OPA, asso. econ., R;** TR. **B** A.B., 1938, M.A., 1940, Columbia. **D** 17, 11, 18. **E** Labor legislation of N.J. (doctoral dissertation, completed, Columbia); cartelization of industry. **F** "Ulrich B. Phillips," Ga. Hist. Quar., Oct., 1941; "The I.W.W. in New Jersey," N. J. Hist. Quar., Sept., 1940; "Wages and hours in the iron and steel industry," Columbia Univ., School of Bus. Bul., June, 1941.

NEWMAN, William H., Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1939)

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NICHOLLS, William Durrett, Univ. of Kentucky, Agric. Exp. Sta., Lexington, Ky. (1929) **A** Univ. of Kentucky, Dept. of Farm Econ., head, prof., TRA. **B** B.S. in Agric., 1907, M.S., 1915, Kentucky; Ph.D., 1926, Cornell. **C** The cost of producing tobacco (Ky. Agric. Exp. Sta. Bul.). **D** 15. **E** Ky. farm organization and management and tenancy. **F** Ky. Agric. Exp. Sta. bulletins and monographs on farm tenancy, etc., 1941 to date. **G** W.

NICHOLLS, William Hord, 503 Lynn Ave., Ames, Iowa. (1942) **A** Iowa State Col., asst. prof., TR. **B** A.B., 1934, Kentucky; M.A., 1937, Ph.D., 1941, Harvard; S.S.R.C. Post-Doc. Fellow, 1941-42, Chicago. **C** Imperfect competition within agricultural industries (Iowa State Col. Press, 1941). **D** 11, 1, 10. **E** Price and production policies in the meat packing industry. **F** "Market-sharing in the packing industry," Jour. of Farm Econ., 1940; "Postwar concentration in the cheese industry," J.P.E., 1940; Postwar developments in the marketing of butter (Iowa Agric. Exp. Sta., Res. Bul., 1940).

NICHOLS, Leonard DeGarmo, Holly Hill, S.C. (1942)

NICOLAYSEN, Albin G., 526 Broad Street Bank Bldg., Trenton, N.J. (1942) **A** N.J. State Tax Dept., office engr., A. **B** C.E., 1902, Poly. Inst., Copenhagen. **D** 6, 19, 4.

NIEHAUS, Fred Raymond, Univ. of Colorado, School of Bus., Boulder, Colo. (1935) **A** Univ. of Colorado, asso. prof. of fin., T. **B** A.B., 1923, Washburn Col.; M.B.A., 1928, Harvard; Ph.D., 1938, Stanford. **C** The development of banking in Colorado (Mountain States Banker, 1942). **D** 9, 7, 8.

NIELANDER, William Ahlers, 2122 Suitland Ter., S.E. Fairfax Village, Washington, D.C. (1939) **A OPA, asst. dir., A;** Univ. of Texas, asso. prof. of market., T. **B** B.S., 1930, Pittsburgh; M.S., 1931, Columbia. **D** 12, 11, 4.

NIELSEN, Oswald, 5401 Kellogg Ave., Edina, Minn. (1929) **A U. S. Navy Dept., sr. statis. anal., RA. B** Ph.B., 1929, Chicago; Ph.D., 1936, Minnesota. **C** Depreciation as a function of revenue. **D** 1, 4. **G** S.

NIGHTINGALE, Edmund Anthony, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1936) **A Minn. Resources Com., consulting transp. econ., R;** Univ. of Minnesota, instr. in econ. and transp., T. **B** B.B.A., 1933, M.A., 1936, Minnesota. **D** 14, 6, 4. **E** British taxation in the twentieth century (doctoral dissertation, nearing completion); Minn. industrial development and freight rate structure. **F** "Proposed changes in the freight rate structure and agriculture," Farm Bus. Notes (Univ. of Minnesota), Mar., 1942.

NILSSON, Arthur Edward, 166 S. Cedar St., Oberlin, Ohio. (1927) **A OPA, consultant, A;** Oberlin Col., prof. of econ., T. **B** B.S. in Civ. Eng., 1922, Tufts; M.B.A., 1924, Harvard; Ph.D., 1931, Yale. **C** Property tax delinquency in Ohio. **D** 9, 10, 4. **E** Book on corporation finance. **G** S.

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NOETZEL, Arthur Jerome, John Carroll Univ., Cleveland, Ohio. (1940) **A** John Carroll Univ., inst. of bus. admin., T. **B** B.S., 1938, John Carroll Univ.; M.B.A., 1940, Northwestern; grad. work, 1941, Michigan. **D** 4, 9, 1. **E** Case study in dynamics of stock prices.

NOETZEL, Grover A. J., Amer. Inst. of Publicity, Public Ledger Bldg., Independence Sq., Philadelphia, Pa. (1934) **A Amer. Inst. of Pub., treas., RB;** Temple Univ., asst. prof., TR. **B** A.B., 1929, Ph.D., 1934, Wisconsin; Certificate, 1930, London School of Econ., 1935, Institute Universitaire de Hautes Études Internationales, Geneva. **C** Recent theories of the foreign exchanges. **D** 1, 5, 8. **E** Economic principles of today. **G** S.

NOLEN, Russell Marion, Univ. of Illinois, Urbana, Ill. (1931) **A** Univ. of Illinois, asst. prof., T. **B** A.B., 1923, M.A., 1926, Missouri; Ph.D., 1936, Washington Univ. **C** The doctrine of laissez faire in the United States. **D** 7, 1, 5. **E** Ill. banks in the war period. **F** "The changing functions of commercial banking," Bankers' Mag., 1938; "The gold standard in the world today," Great Lakes Banker, 1940; "Replacing our suspended banks," Bankers' Mag., 1939. **G** S.

NOONAN, Albert William, 1313 E. 60th St., Chicago, Ill. (1942) **A** Nat. Asso. of Assess. Officers, exec. dir., A. **B** LL.B., 1925, Detroit. **D** 6, 10, 16.

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NORMAN, Theodore, 3304 N. 23rd St., Arlington, Va. (1941)

NORMANO, John Frederick, 309 W. 104th St., New York City. (1931) **A** Inst. of World Econ.,

res. secy.; Latin American Econ. Inst., dir. of res.; TR. **B** Cand. Econ. Sc., 1910, St. Petersburg Poly. Inst.; Dr. rer. pol., 1912, Univ. of Freiburg; Magistrant of Polit. Econ., 1913, Univ. of Moscow. **C** The Russian sugar industry (St. Petersburg, 1910); Commercial banks in Russia (Leipzig, 1912). **D** 2, 1, 3. **E** Japanese in South America (Inst. of Pacific Rela. in press); spirit of American economics; economic ideas of Catholic Church. **F** The struggle for South America (Houghton Mifflin, 1930); Brazil: a study of economic types (Univ. of North Carolina Press, 1935).

NORRIS, Nilan, Hunter Col., 695 Park Ave., New York City. (1936) **A** Hunter Col., instr., TR. **B** A.B., 1930, M.A., 1932, Ph.D., 1940, Stanford. **C** Some contributions to the theory of statistical averages. **D** 4, 1, 11. **E** Efficient estimates of absolute dispersion; measurement of length of business cycles; incidence of public utility taxes; interpretation of indexes of prices. **F** "Efficient measures of relative dispersion," Annals of Math. Statis., Sept., 1938; "Standard errors of geometric and harmonic means," Annals of Math. Statis., Dec., 1940; Tables for estimating the standard error of the coefficient of rank correlation (Edwards Bros., 1942).

NORRIS, (Mrs.) Ruby Turner, Vassar Col., Poughkeepsie, N.Y. (1941) **A** Vassar Col., asst. prof., T. **B** A.B., 1929, Vassar; A.M., 1930, Ph.D., 1936, Stanford. **C** The physical volume of United States foreign trade, 1920-32. **D** 1, 8, 17. **E** Book on consumption economics. **F** The theory of consumer's demand (Yale Univ. Press., 1941). **G** S.

NORTHROP, Mildred Benedict, Bryn Mawr Col., Bryn Mawr, Pa. (1942) **A** Bryn Mawr Col., asso. prof., TR. **B** A.B., 1922, M.A., 1923, Missouri; Ph.D., 1938, Columbia. **C** Control policies of the Reichsbank. 1924-33 (Columbia Univ. Press. 1938). **D** 11, 8, 1. **E** Cartels and national policy. **G** S.

NORTHRUP, Herbert R., 15 Ellis Ave., Irvington, N.J. (1941) **B** A.B., 1939, Duke; A.M., 1941, Harvard. **D** 17, 20, 1. **E** Negro labor and union policies in the South (doctoral dissertation, accepted, Harvard). **F** "The Tobacco Workers International Union," Q.J.E., Aug., 1942.

NORTON, John Raymond, St. John's Univ., 96 Schermerhorn St., Brooklyn, N.Y. (1941) **A** St. John's Univ., asst. prof., T. **B** B.S., 1930, M.A., 1934, New York. **D** 2, 1, 8.

NORTON, Thomas Lowell, Univ. of Buffalo, Crosby Hall, Buffalo, N.Y. (1925) **A** Univ. of Buffalo, Twentieth Cent. Club, prof. of econ., T. **B** B.S., 1923, M.C.S., 1924, Dartmouth; Ph.D., 1932, Columbia. **C** Trade union policies in the Massachusetts shoe industry (Columbia Univ. Press). **D** 17, 18, 1. **E** Wage theory; settlement of industrial disputes. **F** Old-age and the Social Security Act (Univ. of Buffalo, 1937); Education for work (McGraw-Hill, 1939); Public education and economic trends (Harvard Univ., 1939). **G** S.

NOURSE, Edwin Griswold, 722 Jackson Pl., N.W., Washington, D.C. (1911) **A** Brookings Inst., vice-pres., R. **B** A.B., 1906, Cornell; Ph.D., 1915, Chicago. **C** Market mechanism as factor in price determination. **D** 11, 19, 15. **E** Executive policy as a factor in price-making. **F** Legal status of agricultural co-operation (Brookings, 1927); America's capacity to produce (Brookings, 1934); "The meaning of price policy," Q.J.E., Feb., 1941. **G** WSI.

NOYES, C(harles) Reinold, 455 E. 59th St., New York City. (1930) A Nat. Bur. of Econ. Res., dir., vice-pres., R. **B** A.B., 1905, Yale. **D** 1, 3, 7. **F** The institution of property (Longmans, Green and Humphrey Milford, 1936). **G** S.

NUGENT, Rolf, 130 E. 22nd St., New York City. (1936) **A OPA, Automobile Rationing Br., chief, A;** Russell Sage Found., Dept. of Consumer Credit Studies, dir., R. **B** A.B., 1923, Amherst; D.S.S., 1939, New School for Social Research. **C** Dynamics of consumer credit (pub. as Consumer credit and economic stability, Russell Sage Found., 1939). **D** 5, 10, 6. **F** Guns, planes, and your pocketbook (Pub. Affairs Com., 1941); "Consumer credit and consumer capital formation," in Capital formation and its elements (1939). **G** S.

NULSEN, Robert Hovey, 9910 Robbins Dr., Beverly Hills, Calif. (1938)

NUNN, William Lee, Univ. of Newark, Newark, N.J. (1937)

NURNBERG, Max, 20 Post Ave., New York City. (1942) **A** New School for Social Research, Grad. Faculty, res. asst., R. **B** Diplom. Kaufm., 1913, Handelshochschule Berlin; Ph.D., 1914, Univ. of Heidelberg, Germany. **C** The public burden on the German industry, how to measure the impact of taxes and social security contributions upon profits. **D** 16, 6, 9. **E** Housing financing. **F** "Housing between boom and bottlenecks," Soc. Res., May, 1941.

NUSSBAUM, Hans, 3219 Georgia Ave., N.W., Washington, D.C. (1939) **A Konsum Co-operative, bookkeeper and accountant, B;** R. **B** Dipl. rer. pol., 1930, Dr. rer. pol., 1932, Univ. of Cologne, Germany. **C** Die Rheinisch-Bergische Konsumgenossenschaft "Hoffnung" (Berlin, 1933). **D** 19, 5, 4. **E** Co-operatives in a postwar economy.

NYSTROM, Paul H., Columbia Univ., School of Bus., New York City. (1924) **A Limited Price Variety Stores Asso., pres., B;** Columbia Univ., prof., TR. **B** Ph.B., 1909, Ph.M., 1910, Ph.D., 1914, Wisconsin. **C** Economics of retailing (Ronald Press, 3rd ed., 1930). **D** 12, 19, 17. **E** Revision of economics of consumption text; hours of work in relation to efficiency. **F** Economics of consumption (2nd ed., 1933), Fashion merchandising (1932), Elements of retail selling and store operation (rev. 1937) (Ronald Press). **G** WSE.

OAKES, Eugene Ernest, 4027 Benton St., N.W., Washington, D.C. (1931) **A War Ship. Admin., Requirements Div., Indian Sec., member, A;** Yale Univ., asst. prof., T. **B** B.S., 1931, Northwestern; M.A., 1933, Ph.D., 1934, Harvard. **C** Studies in Massachusetts farm finance (Harvard Univ. Press, 1937). **D** 6, 1, 14. **E** Development of death duties in the U.S. **G** S.

OAKES, Ralph Hathaway, 5400 Greenwood Ave., Chicago, Ill. (1942) **A** De Paul Univ., Col. of Com., lecturer in market.; Woodlawn Property Owners' League, field secy.; Univ. of Chicago, student. **B** Ph.B., 1925, M.B.A., 1938, Chicago. **D** 10, 12, 5. **E** Economics of persuasion. **F** "Bibliography on federal food, drug and cosmetic legislation," News Bul. (Univ. of Chicago), Nov., Dec., 1938; "Can a suburban community newspaper be an effective advertising medium?," News Bul., May, 1939.

OAKLEY, Cyrus Kindley, 644 W. Maple St., Apt. 1, Fayetteville, Ark. (1937)

O'BEIRNE, Bert Ellis, Michigan State Col., Dept. of Econ., East Lansing, Mich. (1942) **A** Michigan State Col., instr., T. **B** Ph.B., 1936, Carroll; Ph.M., 1938, Wisconsin. **D** 17, 10, 3.

OBERING, William Frederick, P.O. Box 1051, Albuquerque, N.M. (1941)

O'CONNELL, Donald William, 52-18 Van Loon St., Elmhurst, N.Y. (1940)

O'CONNOR, J. Michael, 1930 18th St., N.W., Washington, D.C. (1934)

ODERKIRK, Alvan Dean, Iowa State Col., Econ. and Soc. Dept., Ames, Iowa. (1941) Iowa State Col., asst. prof. agric. econ., TR. **B** B.S., 1926, North Dakota Agric. Col.; M.S., 1928, Iowa State Col. **D** 12, 11, 19. **E** Frozen and dried eggs as a market outlet for Midwest poultry producers (doctoral dissertation).

O'DONNELL, Al F., 3000 39th St., N.W., Washington, D.C. (1937) **A** U. S. Treas. Dept., asst. dir. of res. and statis., RA. **B** S.B. (chem. engr.), 1918, M.I.T.; M.A. (Econ.), 1922, California; Ph.D., 1938, Chicago. **C** A case history of the NRA. **D** 9, 6, 11. **E** Techniques of forecasting business and income trends. **F** The chemical manufacturing industry (U. S. Dept. of Com., 1935); The fertilizer industry (2 vols., U. S. Dept. of Com., 1935). **G** S.

O'DONNELL, Cyril, 64 E. Lake St., Chicago, Ill. (1929)

OEHLER, Christian, 660 Glen Ave., Westfield, N.J. (1935) **A** Armstrong and Oehler, member of firm; Fordham Univ., prof. of acctg.; Columbia Univ., Practicing Law Inst., lecturer; TR. **B** A.B., 1913, Fordham; A.M., 1928, Columbia; C.P.A., Kentucky, New York, New Jersey. **D** 4, 7, 9. **E** Workbook to accompany Audits and examinations; commodity dollar. **F** Audits and examinations (Fordham Univ. Press, 1940); "Loans and dis-

counts," N. Y. State C.P.A., 1940; Some notes on certain topics in the mathematics of accounting (mono., privately pub., 1938).

O'GRADY, John, 1317 F St., N.W., Washington, D.C. (1916)

OHSOL, Johann G., 1815 Riverside Dr., New York City. (1913)

O'LEARY, Edmund Bernard, Univ. of Dayton, Dayton, Ohio. (1941) **A** Univ. of Dayton, head, prof., TA. **B** B.S., 1924, Ph.D., 1938, Ohio State; M.A., 1928, Chicago. **C** Co-operative wholesaling (Ohio State Univ. Press, 1942). **D** 12, 7, 9. **G** E.

O'LEARY, James John, Box 58, Wesleyan Sta., Middletown, Conn. (1941) **A** Wesleyan Univ., instr., T. **B** B.A., 1936, M.A., 1937, Wesleyan; Ph.D., 1941, Duke. **C** Federal deposit insurance (now being rev. for pub.). **D** 1, 7, 3. **E** Forerunners of effective demand; Malthus and Keynes (for J.P.E.); general wage ceiling and federal deposit insurance (for S.E.J.).

O'LEARY, Joseph Maurice, 15 Chesbrough Rd., West Roxbury, Mass. (1937) **A** High School of Com., counselor, T. **B** B.B.A., Ed.M., 1930, Boston Univ. **D** 17, 20, 11. **F** Co-author, Economics: principles and problems Van Nostrand, 1939); The government of Boston (Houghton Mifflin, 1934); "The teaching of economics in public high school," Q.J.E., May, 1940.

O'LEARY, Paul Martin, Brighton Hotel, 2123 California St., Washington, D.C. (1929) **A OPA, acting deputy admin. in charge of rationing, A;** Cornell Univ., prof. of econ., TR. **B** A.B., 1922, Kansas; A.M., 1924, Harvard; Ph.D., 1929, Cornell. **C** The receiverships and reorganizations of the Denver and Rio Grande and Western Pacific Railways. **D** 10, 1, 9. **F** Corporate enterprise in modern economic life (Harper, 1933); An introduction to money, banking, and corporations (with John H. Patterson) (Macmillan, 1937). **G** SE.

OLIVER, Clifton, Jr., Texas Christian Univ., Fort Worth, Tex. (1940) **A** Texas Christian Univ., instr., TA. **B** B.A., 1937, M.A., 1939, Texas Tech. Col.; grad. work, Louisiana State Univ., Wisconsin. **D** 17, 14, 11.

OLIVER, E. L., 5631 Potomac Ave., N.W., Washington, D.C. (1928)

OLIVER, Henry Madison, Jr., 2232 Quincy St., N.E., Washington, D.C. (1938) **A U. S. Navy;** U. S. Treas., econ. anal., R. **B** A.B., 1934, Southwestern, Memphis; M.A., 1936, Ph.D., 1939, Duke. **C** Some concepts of economic justice. **D** 1, 3, 5. **F** "The relationship between total and man-hour output in American manufacturing industry," Q.J.E., Feb., 1941; "War and inflation since 1790 in England, France, Germany, and the United States," A.E.R., Feb., 1941; "Government and community influences on industrial location." in National policy and industrial location (Nat. Res. Plan. Bd., 1942). **G** S.

OLSEN, Herluf Vagn, Dartmouth Col., Amos Tuck School, Hanover, N.H. (1924) **A** Amos Tuck School, dean, prof., TA. **B** B.S., 1922, M.S. (Hon.), 1937, Dartmouth. **D** 5, 10, 4. **G** WS.

OLSON, Albert Laverne, 1819 Park Rd., Huntington, W.Va. (1937) **A** Marshall Col., dept. head, prof. of econ., T. **B** A.B., 1924, Augustana Col., Rock Island; A.M., 1930, Northwestern; Ph.D., 1934, Yale. **C** Economic aspects of westward migration from Connecticut in the late eighteenth century. **D** 2, 1, 3. **E** Economic background of American frontier movement. **F** Agricultural economy and the population in eighteenth century Connecticut (pamph., Yale Univ. Press, 1935). **G** SE.

OLSON, Oscar Albert, 310 N. Carrie St., McPherson, Kan. (1940) **A** McPherson Col., prof., T. **B** B.S., 1928, Northern State Teachers Col., Aberdeen; M.A., 1932, Ph.D., 1939, Iowa. **C** A critical examination of the principal methods proposed for the stabilization of business, 1929-39. **D** 7, 1, 5. **G** S.

OMOHUNDRO, Edgar Huntley, 455 Delafield Pl., N.W., Washington, D.C. (1940) **A** U. S. Dept. of Agric., Utilization and Diversion Div., Cotton Br., prin. agric. econ., in charge. **D** 15, 19, 12. **F** Joint author, Diversion of cotton and cotton products from their normal channels of trade (U. S. Dept. of Agric. Bul., rev. Jan., 1939); "Meeting the bag crisis," Daily News Record, Jan. 22, 1942.

O'NEILL, Harry John, 3674 Lindell Blvd., St. Louis, Mo. (1928) **A** St. Louis Univ., Dept. of Econ., head, prof., A; Associated Fund Inc., pres.; Mut. Bank and Trust Co. of St. Louis, econ.; Missouri Ins. Co., Bd. of Dir., member. **B** B.A., 1919, Nebraska; M.A., 1922, Columbia; Ph.D., 1927, California. **C** Regional fluctuations in general business since 1918. **D** 17, 5, 7. **E** Branch banking in the U. S.; economics of a successful peace. **F** "What business wants," N.Y. Sun, Jan. 6, 1940; "A breathing spell for business," Taxpayers Rev. (Denver), July, 1940. **G** S.

OPIE, Redvers, British Embassy, Washington, D.C. (1926) **A British Embassy, counsellor, econ. adviser, A;** Oxford, Magdalen Col., fellow, T. **B** B.Com., 1919, Univ. of Durham, England; Ph.D., 1928, Harvard; M.A. (by decree), 1931, Oxford. **C** J. S. Mill. **D** 1, 8, 7. **G** S.

OPTON, Irene B., 467 Central Park W., New York City. (1942)

ORCHARD, John Ewing, Columbia Univ., School of Bus., New York City. (1940) **A Lend-Lease Admin., asst. admin., A;** Columbia Univ., prof. of econ. geog., T. **B** A.B., 1916, Swarthmore; M.A., 1920, Ph.D., 1923, Harvard. **C** World coal resources and some of their implications. **D** 16, 13, 15. **E** Industrialization of the Far East. **F** Japan's economic position (1930); Resources for victory (pamph., Columbia Univ. Press, 1942). **G** WS.

ORMES, Ferguson Reddie, 13 Mills Pl., Crawfordsville, Ind. (1940) **A** Wabash Col., Div. Soc. Sci., chmn., prof. of econ., TAB. **B** A.B., 1912, Colorado Col.; A.B., 1913, Yale; M.A., 1925, Chicago. **D** 4, 7, 3. **F** Elementary construction and interpretation of financial statements (Edwards Bros., 1941). **G** S.

ORTEN, Maurice D., Missouri School of Mines and Metallurgy, Box 510, Rolla, Mo. (1924) **A** Missouri School of Mines and Metallurgy, T. **B** A.B., 1919, Drury; A.M., 1922, Kentucky Wesleyan; M.A., 1924, Washington Univ. **D** 14, 3, 11. **F** "Present economic condition of tri-state zinc district," Amer. Zinc Inst. Jour. 1929; "Factors affecting marketing of tri-state zinc concentrate," Harvard Bus. Rev., 1927. **G** S.

ORTON, W(illiam) Aylott, 135 Vernon St., Northampton, Mass. (1922) **A** Smith Col., prof. of econ., T. **B** B.A. (Hons.), 1919, M.A., 1922, Christs Col., Cambridge; M.Sc. Econ., 1921, London School of Econ. **D** 2, 3, 17. **E** Economic history of Europe since 1918. **F** Prelude to economics (Little, Brown, 1922); Labour in transition, 1914-19 (Philip Allen, London, 1922); Twenty years armistice (Farrar and Rinehart, 1938). **G** WSE.

OSBORN, William Church, 20 Exchange Pl., New York City. (1910) **A** Osborn, Fleming and Whittlesey, lawyers, sr. member. **B** B.A., 1883, LL.D., 1942, Princeton; LL.B., 1889, LL.D., 1940, Harvard; LL.D., 1915, Toronto. **D** 14, 13. **G** W.

OSGOOD, Roy Clifton, 38 S. Dearborn St., Chicago, Ill. (1904) **A** First Nat. Bank of Chicago, vice-pres., B. **B** LL.B., 1903, George Washington. **D** 6, 9, 7. **G** W.

O'SHEA, Vincent John, 260 Arleigh Rd., Douglas Manor, L.I., N.Y. (1932)

OSIAS, Max S., 416 N. Thomas St., Arlington, Va. (1940) **A WPB, ind. econ. anal., R. B** A.B., 1939, American. **D** 18, 10, 17.

OSTLUND, Harry J., Univ. of Minnesota, School of Bus., Minneapolis, Minn. (1920)

OSTROLENK, Bernhard, 17 Lexington Ave., New York City. (1940) **A** Col. of City of New York, asst. prof., T. **B** Ph.D., 1922, Pennsylvania. **D** 16, 15, 14. **E** Co-operation. **F** Economic geography (R. D. Irwin, 1941). **G** W.

OTTE, Herman Frederick, Columbia Univ., 619 School of Bus., New York City. (1942) **A** Columbia Univ., asst. prof., TR. **B** A.B., 1928, M.A., 1929, Nebraska; Ph.D., 1940, Columbia. **C** Industrial opportunity in the Tennessee Valley of northern Alabama (Columbia Univ. Press, 1940). **D** 16, 1, 2. **E** Evolution of industry in the South; location of type industries.

OTTO, Erich A., 341 Sylvan Ave., Leonia, N.J.

(1931) A Charles Engelhard, Inc., admin. asst. to pres. and controller; New York Univ., instr. in fin.; Columbia Univ., Univ. Ext., instr. in ind. engr.; TAB. B M.B.A., 1927, New York. D 4, 11, 5. E Industrial budgeting and production control.

OUCHTERLONY of Kellie (Baron), Archibald Patrick Alexander James Stuart Douglas Percival, 211 Piccadilly, London, W.1, England. (1942) A Unicorn Trust Co., chmn.; Kellie's Press Exch., dir. B Lund, Stockholm Univ., London. D 7, 6, 8. G I.

OWEN, Edgar Lyle, Carnegie Inst. of Tech., Pittsburgh, Pa. (1942) A Carnegie Inst. of Tech., asst. prof., T. B A.B., 1927, Southwest Missouri State Teachers Col.; M.A., 1928, Ph.D., 1937, Wisconsin. C The taxation of economic surpluses, with particular reference to the taxation of profits. D 6, 3, 16. F "The source of taxes," Aug., 1936, "Who should pay the taxes?" Aug., 1937, Tax Mag.; "Why tax business?" Bankers Mag., Mar., 1942.

OWEN, William Vern, Purdue Univ., Lafayette, Ind. (1939) A Purdue Univ., prof. of econ., T. B Ph.B., 1920, Chicago; Ph.M., 1926, Wisconsin. D 17, 18. F Labor market problems (planograph text, John S. Swift, 1940); "Decentralization of personnel work," Personnel Jour., June, 1940; "Labor conscription," Personnel Jour., Apr., 1942. G S.

OWENS, Richard Norman, George Washington Univ., Washington, D.C. (1923) A George Washington Univ., prof. of acctg. and bus. admin., T. B A.B., 1917, Missouri; A.M., 1922, Ph.D., 1928, Chicago. C Business cycles, United States and England, 1866-80. D 4, 11, 9. E Revision of Business organization and combination. F Business organization and combination (Prentice-Hall, rev. 1938); Accounting—elementary theory and practice (Van Nostrand, rev. 1940). G WS.

PABST, William Richard, Jr., 1963 39th St., N.W., Washington, D.C. (1932)

PACKARD, Richard Montgomery, 143 Park Dr., Boston, Mass. (1936) A Wheelock Col., instr., T. B B.A., 1928, Hobart; M.A., 1929, Columbia. D 2.

PAGANI, John, Jr., Univ. of Santa Clara, Santa Clara, Calif. (1939) A Stanford Univ., acting instr.; Univ. of Santa Clara, asst. prof., T. B B.C.S., 1932, Santa Clara. D 6, 4, 1. E Theory of Italian public finance and taxation.

PAGE, (Mrs.) Anne, Amer. Asso. of Univ. Women, 1634 I St., N.W., Washington, D.C. (1936)

PAGE, Atwood Collins, 314 Collins St., Hartford, Conn. (1912)

PALMER, Dwight L., Lockheed Aircraft Corp., Burbank, Calif. (1940) A Lockheed Aircraft Corp., Ind. Rela. Res. dir., RB. B A.B., 1925, Pomona; M.A., 1926, Chicago; Ph.D., 1935, Stanford. C The long shore strike of 1935: a study in industrial relations. D 17, 11, 16. E Community effects of specialization and industry; absenteeism and war work. F "Industrial relations in the United States," Occupa. Psych., July, 1939: "Influence of age on employment opportunities," Monthly Labor Rev., Apr., 1939: "The shifting control of industry," Mech. Engr., Dec., 1941. G S.

PALMER, Edgar Zavitz, Univ. of Kentucky, Lexington, Ky. (1927) A Univ. of Kentucky, prof. of econ., T. B A.B., 1919, Swarthmore; Ph.D., 1928, Wisconsin. C The definition of income and the distribution of class incomes. D 4, 3, 19. G S.

PALMER, Gladys Louise, 3440 Walnut St., Philadelphia, Pa. (1920) A U. S. Bur. of the Budget, Div. of Statis. Stand., consultant, R; Univ. of Pennsylvania, Ind. Res. Dept., res. asso., R. B B.A., 1917, Barnard; Ph.D., 1924, Pennsylvania. C Labor relations in the lace and lace curtain industries in the United States (U. S. Bur. of Labor Statis., 1925). D 17, 4 E War labor supply problems of Philadelphia. F Union tactics and economic change (Univ. of Pennsylvania Press, 1932); series of monographs on Philadelphia labor market (Univ. of Pennsylvania et al., 1932, ff.). G S.

PALMER, Walter S., Jr., 201 State St., Reno, Nev. (1934)

PALMER, William Braman, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1934)

PALYI, Melchior, 211 W. Wacker Dr., Chicago, Ill. (1927)

PANCOAST, Elinor, Goucher Col., Baltimore, Md. (1923) A Goucher Col., prof., T. B Ph.B., 1917, M.A., 1922, Ph.D., 1927, Chicago. C The international Photo-Engravers' Union. D 17, 19, 18. E Mobility of labor as factor in location of industry. F The incorrigible idealist: Robert Dale Owen in America (Principia Press, 1940). G S.

PANCOAST, Omar, Jr., Haverford Col., Haverford, Pa. (1941) A Haverford Col., asst. prof. of econ. and soc., T. B B.S., 1932, Johns Hopkins; Ph.D., 1941, Columbia; C.L.U., 1935, Amer. Col. of Life Underwriters. C Occupational mobility—democratic efficiency through the use of human resources (Columbia Univ. Press, 1941). D 17, 5, 19.

PAPIER, William, 1018 Studer Ave., Columbus, Ohio. (1940) A U.S.E.S. in Ohio, Reports and Anal. Sec., chief, R. B B.S., 1932, M.A., 1933, Ohio State.

PARIS, James Daniel, 83 Old Pond Rd., Great Neck, N.Y. (1935) A Metropolitan Life Ins. Co., Bus. Res. Bur., res. asso., R. B A.B., 1929, A.M., 1931, Ph.D., 1938, Columbia. C Monetary policies of the United States, 1932-38 (Columbia Univ. Press, 1938). D 6, 8, 5. E Treasury borrowing from the small saver; harmonic analysis with semi-log paper.

PARKER, Coralie, Judson Col., Marion, Ala. (1942) A Judson Col., asst. prof., TR. B A.B., 1921, Meredith; M.A., 1924, Ph.D., 1929, Columbia. C The history of taxation in North Carolina during the colonial period (Columbia Univ. Press, 1928). D 6, 2, 10. E Book on history of taxation in U.S.; article on federal taxation. F "Distribution of the tax burden in North Carolina," in N. C. Year Book (North Carolina Press), 1927.

PARKER, James Strong, 2326 S. 15th St., Sheboygan, Wis. (1936) A Univ. of Wisconsin Ext. Div., asst. prof., T. B B.A., 1922, Beloit; M.B.A., 1928, Northwestern; Ph.D., 1941, Wisconsin. C Economic principles and policies of financial reserves in social security legislation (Amer. Coun. on Pub. Affairs). D 18, 19, 5. F Social security reserves (Amer. Coun. on Pub. Affairs, 1942).

PARKINSON, Royal, 1 Chapin Ct., Southbridge, Mass. (1941) A Amer. Optical Co., personnel dir., B. B B.S., 1905, Dartmouth. D 17, 18, 10.

PARMELEE, Julius Hall, 1024 Transportation Bldg., Washington, D.C. (1917) A Bur. of Ry. Econ., dir., RA. B B.A., 1904, Ph.D., 1910, Yale. C The statistical work of the federal government. D 14, 3, 4. E Transportation in wartime; postwar. F The modern railway, (Longmans, Green, 1940); annual reviews of railway operations, 1925 to date. G WSI.

PARMELEE, Rexford Clark, 4700 47th St., N.W., Washington, D.C. (1931) A OPA, prin. econ., RA. B B.S., 1930, M.S., 1931, Ph.D., 1935, Illinois. C The position of the investment trust in the exportation of capital. D 11, 9, 4. F Distribution of ownership of the 200 largest nonfinancial corporations (with others) (TNEC, 1941). G S.

PARRISH, Lawrence Lippincott, Northwestern Univ., School of Com., Evanston, Ill. (1942) A Northwestern Univ., instr., T. B A.B., 1936, Swarthmore. D 11, 17, 13.

PARROTT, D'Arcy, 65 Broadway, New York City. (1940)

PARRY, Carl Eugene, Bd. of Gov., Fed. Res. System, Washington, D.C. (1910) A Bd. of Gov., Fed. Res. System, Div. of Security Loans, chief, RA. B A.B., 1905, M.A., 1907, Ph.D., 1909, Michigan. C Labor legislation of Michigan. D 7, 9, 5. E Control of consumer credit; control of speculation. G WS.

PARRY, Corliss Lloyd, Marvin Ridge Rd., New Canaan, Conn. (1935) A Metropolitan Life Ins. Co., res. asso.; Columbia Univ.; TRA. B B.A., 1924, M.A., 1929, Ph.D., 1932, Ohio State. C Investment policies and practices of the United States legal-reserve life insurance companies (summary, Columbus, 1932). D 9, 10, 12. E Role of formal savings institutions in war finance. F "The insurance industry in defense and war finance," Proceedings, Amer. Asso. of Univ. Teachers of Ins., Mar., 1942; "European insurance companies and real estate," Jour. of Land and

Pub. Util. Econ., Aug., 1940; Insurance trade press advertising (Ohio State Univ., 1930).

PARSONS, Kenneth H., Univ. of Wisconsin, 304 Agric. Hall, Madison, Wis. (1937)

PARSONS, Oswand A., Montana State Col., Bozeman, Mont. (1939) **A** Montana State Col., asso. prof., TR. **B** B.A., 1930, Butler. **D** 15. **E** Factors affecting managerial, bargaining, and rationing activities related to agriculture in the Great Plains area of Mont. (doctoral dissertation); farm management and land use adjustment problems in Mont. **F** Agricultural planning, its economic and social aspects (Mont. Agric. Exp. Sta., 1941).

PASCHAL, Elizabeth, 3012 N. Calvert St., Baltimore, Md. (1934) **A** Soc. Sec. Bd., econ., R. **B** B.A., 1924, M.A., 1927, Wellesley; Ph.D., 1933, Wisconsin. **C** The worker's equity in his job (pub. serially in Amer. Federa.). **D** 18, 17, 19.

PASEL, Lawrence, 3 College St., Canton, N.Y. (1924)

PASVOLSKY, Leo, Special Asst. to Secy. of State, Dept. of State, Washington, D.C. (1939)

PATON, William Andrew, 2203 Hill St., Ann Arbor, Mich. (1917)

PATTERSON, Ernest Minor, Logan Hall, 36th St. and Woodland Ave., Philadelphia, Pa. (1912) **A** Univ. of Pennsylvania, prof. of econ., T. **B** A.B., 1902, A.M., 1904, LL.D., 1936, Park Col.; Ph.D., 1912, Pennsylvania. **C** Co-operation among the retail grocers of Philadelphia. **D** 8, 1, 7. **F** The operation of the new bank act (with Thomas Conway, Jr.) (Lippincott, 1914); The world's economic dilemma (McGraw-Hill, 1930); The economic bases of peace (McGraw-Hill, 1939). **G** WS.

PATTERSON, John H., 2500 Q St., N.W., Washington, D.C. (1935)

PATTERSON, S(amuel) Howard, Univ. of Pennsylvania, Philadelphia, Pa. (1921) **A** Univ. of Pennsylvania, prof., T. **B** B.S., 1914, A.M., 1916, Ph.D., 1922, Pennsylvania. **C** Family desertion and nonsupport. **D** 1, 17. **E** Revision of earlier works. **F** Social aspects of industry (rev. 1935), Readings in history of economic thought (1932), Economic problems of modern life (with Karl Scholz) (rev. 1937) (McGraw-Hill). **G** WSE.

PATTON, Francis Lester, College Hill, Clinton, N.Y. (1920) **A** Hamilton Col. **B** A.B., 1913, Ohio State; B.A., 1916, Oxford; Ph.D., 1926, Columbia. **C** Diminishing returns in agriculture. **D** 1. **E** Diminishing return goals in economics (Columbia Univ. Press, 1926). **G** S.

PATTON, Harald Smith, Michigan State Col., Dept. of Econ., East Lansing, Mich. (1923)

PATTON, Robert Dean, Ohio State Univ., Columbus, Ohio. (1927) **A** Ohio State Univ., asso. prof., T. **B** B.S. in B.A., 1922, M.A., 1926, Ph.D., 1938, Ohio State. **C** Natural law and the theory of free enterprise. **D** 1, 2, 3. **G** S.

PAUSTIAN, Paul William, Stephens Col., Columbia, Mo. (1929) **A** Stephens Col., Div. of Soc. Studies, dir., TA. **B** B.A., 1919, Central Wesleyan Col.; B.D., 1923, Drew Univ.; M.A., 1923, Ph.D., 1930, Columbia. **C** Canal irrigation in the Punjab, India (Columbia Univ. Press, 1930). **D** 1, 19, 2. **E** Development and prospects in consumer economics; economic developments in British India; American economic problems. **F** Problems of modern society (McGraw-Hill, 1938); Elementary sociology (Lucas Bros., Columbia, Mo., 1937).

PEARCE, Charles Albert, 2700 Q St., N.W., Washington, D.C. (1933) **A** U. S. Dept. of Justice, econ. consultant, R. **B** A.B., 1928, Hiram; M.A., 1930, Kentucky; Ph.D., 1937, Wisconsin. **C** NRA trade practice programs (Columbia Univ. Press). **D** 11, 10, 18. **F** Trade association survey (TNEC Mono. 18).

PEARSON, David Casanave, 2610 Las Lunas St., Pasadena, Calif. (1941)

PEARSON, O. P., Automobile Mfrs. Asso., New Center Bldg., Detroit, Mich. (1940)

PECHMAN, Joseph A., 120 C St., N.E., Washington, D.C. (1942) **A OPA, econ., R. B** B.S., 1937, City of New York; M.A., 1938, Ph.D., 1942, Wisconsin. **C** Relation between the distributions of income by size and by type of receipt. **D** 19, 6, 4. **E** Changes in the distribution of income.

PECK, Gustav, 3012 32nd St., N.W., Washington, D.C., (1932) **A WPB, Inventory and Requisitioning Br., Price Determination Unit, chief, A;** American Univ., Grad. School, lecturer in labor econ., A. **B** A.B., 1921, M.A., 1924, Columbia; Ph.D., 1927, Brookings. **C** Economics of a rising industrialism. **D** 17, 10, 3. **F** Co-author, "Labor in recent social trends," in Recent social trends (McGraw-Hill, 1933); "Employment planning," in Planning for America (Holt, 1941); "Role of labor in governmental administrative procedure," The Annals, Mar., 1936. **G** S.

PECK, Harvey Whitefield, Syracuse Univ., Maxwell Hall, Syracuse, N.Y. (1922)

PEGRUM, Dudley Frank, Univ. of California, Los Angeles, Calif. (1928) **A** Univ. of California at Los Angeles, asso. prof., TRA. **B** A.B., 1922, M.A., 1924, Alberta; Ph.D., 1927, California. **C** California Railroad Commission. **D** 10, 14, 1. **E** Economics of industrial control; economic consequences of the due process clauses. **F** Rates theories and the California Railroad Commission (1932), Regulation of public utility securities in California (1937) (Univ. of California Press); "Economic planning and the science of economics," A.E.R., June, Dec., 1941. **G** SE.

PEIRCE, Paul Skeels, 320 Knowles Ave., Winter Park, Fla. (1910) **A** Oberlin Col., emeritus prof. of econ., T. **B** Ph.B., 1897, Cornell; Ph.D., 1900, Yale. **C** The Freedmen's Bureau (State Univ. of Iowa Bul., 1904). **D** 8, 2, 17. **F** International commercial policies (with G. M. Fisk) (Macmillan, 1923). **G** WS.

PEISCH, Archie Marcus, Norwich, Vt. (1919)

PEKELIS, Alexander, 16 Summit Ave., Larchmont, N.Y. (1941)

PELZ, Edward Joseph, 1475 Broadway, New York City. (1938) Publishers' Asso. of New York City, office mgr., B. **B** B.A., 1938, Colorado Col. **D** 17, 4.

PERCEFULL, Sabin Cubbage, Northeastern Oklahoma Junior Col., Miami, Okla. (1921) **A** Northeastern Oklahoma Junior Col., pres., A. **B** A.B., 1912, Baylor; A.M., 1913, Brown. **D** 5, 1, 7. **G** E.

§PERCUS, Philip M., 565 5th Ave., New York City. (1942)

PERLMAN, Benjamin, 947 Montgomery St., Brooklyn, N.Y. (1931)

PERLMAN, Selig, 1805 Rowley Ave., Madison, Wis. (1915) **A** Univ. of Wisconsin, prof. **B** B.A., 1910, Ph.D., 1915, Wisconsin. **C** History of labor in the United States (Macmillan, rev. 1935). **D** 17, 3, 2. **E** Labor under the New Deal; revision of A theory of the labor movement. **F** A theory of the labor movement (Macmillan, 1928). **G** WS.

PERRING, Katherine, Princeton Univ., Bur. of Urban Res., Princeton, N.J. (1942) **A** Princeton Univ., res. tech., R. **B** A.B., 1932, Grinnell; M.B.A., 1940, New York. **D** 16, 14, 1. **E** Variation of cost of living in cities of different sizes (doctoral dissertation). **F** "Urban land use and the new mobility," Amer. City Mag., May, 1942.

PERRONE, Patrick D., 1017 Palm Rd., Tucson, Ariz. (1941)

PERRY, G(ordon) Neil, Bur. of Econ. and Statis., Weiler Bldg., Victoria, B.C., Canada. (1940) **A Postwar Rehabilitation Coun. of B.C., consultant (on leave), RA; Littauer Fellow, Harvard, 1942-43;** Dept. of Trade and Ind. of B.C., Bur. of Econ. and Statis., dir., RA. **B** B.A., 1933, British Columbia. **D** 6, 8, 1. **E** Economics of confederation. **F** "The significance of agricultural production and trade in the economic development of British Columbia." Scientific Agric., Sept., 1939; articles on British Columbia, Encyclopaedia Britannica Yearbook, 1939-42.

PERRY, Robert Hazlett, 532 Plymouth Rd., San Marino, Pasadena, Calif. (1941) **A** Everett Harris and Co., secy.-treas., RB. **B** A.B., 1931, Stanford; M.B.A., 1933, Harvard. **D** 9, 5, 6.

PERSON, Harlow Stafford, 94 Southlawn Ave., Dobbs Ferry, N.Y. (1901) **A Rural Elec. Admin., Mexican Oil Claims Com., consulting econ., A; bus. manage. consultant, B. B** Ph.B., 1899, A.M., 1900, Ph.D., 1902, Michigan. **C** Physical factors in the economic development of the state of Michigan. **D** 11, 3, 17. **E** Mexican oil problem. **F** Scien-

tific management in American industry (Harper, 1929). **G** WS.

PERSON, Walter A., Waldorf Col., Forest City, Iowa. (1940) **A** Waldorf Col., dir. bus. training, T. **B** B.S., 1938, M.A., 1939, South Dakota.

PERSONS, Charles Edward, 4105 Fessenden St., Washington, D.C. (1910) **A** NLRB, trial exam., A. **B** A.B., 1903, Cornell Col.; A.M., 1905, Ph.D., 1913, Harvard. **C** The ten hour law in Massachusetts. **D** 17, 1, 18. **E** Facts of inequality and theory of distribution; bituminous coal mines and public control; decisions of the NLRB. **F** "Technological unemployment," in Professor Gay Memorial vol.; Report, New York Joint Legislative Com. on Unemployment (1931); "Credit expansion 1920-29 and its lessons," Q.J.E., Nov., 1930. **G** S.

PETERS, (Mrs.) Iva Lowther, Fishkill, N.Y. (1922) **A** Forum leader for Federal Forums, Town Hall and community, A. **B** A.B., 1901, Syracuse; A.M., 1916, Columbia; Ph.D., 1918, Clark Univ. **C** Woman and the institutional taboo (pub. in Taboo and genetics, Moffat, Yard and Co., 1920). **D** 4, 1, 17. **E** Rehabilitation of older workers; mono. on William Lowther the Quaker. **F** Agencies for the sale of cooked foods without profit (Coun. of Nat. Defense, 1919); "Vocational guidance," in vocational text edited by Frederick Allen (McGraw-Hill, 1927). **G** WE.

PETERS, Leonard A. H., 1470 Euclid St., Washington, D.C. (1942) **A** Netherlands Embassy, agric. attaché, RA. **B** Agr. Eng., 1923, Agricultural Col., Wageningen, Holland. **D** 15, 8, 11.

PETERSEN, Elmore, Univ. of Colorado, Boulder, Colo. (1930) **A** Univ. of Colorado, School of Bus., dean, A. **B** B.A., B.Com., 1911, South Dakota; M.A., 1920, Illinois. **D** 11, 12, 10. **F** Market analysis of the Denver wholesale trade territory (Univ. Ext. Div., Boulder, Colo., 1925); Business organization and management (Irwin, 1941). **G** WE.

PETERSEN, Kaare Reidar, 80 Broad St., New York City. (1942) **A Norwegian Ship. and Trade Mission, econ., R**; Central Statis. Bur., Oslo, econ., R. **B** Cand. oecon., 1934, Univ. of Oslo. **D** 1, 14, 10. **E** Allied shipping policy and the war. **F** Drukkenskapsarrestantene i Oslo (1939), Trangsarbeiderne på Opstad (1941) (Edruelighetsrådet, Oslo).

PETERSON, Edward J., Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1942) **A** Univ. of Minnesota, instr. in econ. and acctg., T. **B** B.B.A., 1938, M.A., 1940, Minnesota. **D** 7, 1, 4. **E** Changes in cash balance administration in the railway industry; causes and consequences of changes in cash balance administration (doctoral dissertation).

PETERSON, Florence, U. S. Bur. of Labor Statis., Washington, D.C. (1934)

PETERSON, (Mrs.) Florence Bennett, 687 Lincoln Ave., Winnetka, Ill. (1928)

PETERSON (George) Shorey, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1924) **A** Univ. of Michigan, prof., T. **B** A.B., 1920, Albion; A.M., 1921, Ph.D., 1927, Michigan. **C** Economics of highway development. **D** 10, 1, 14. **F** "Motorcarrier regulation and its economic bases," Q.J.E., Aug., 1929; "Highway policy and commercial basis." Q.J.E., May, 1932. **G** S.

PETERSON, J(ames) Marvin, Miami Univ., Oxford, Ohio. (1932) **A** Miami Univ., dept. head, prof. of econ., T. **B** B.A., 1923, St. Olaf; M.A., 1926, Ph.D., 1931, Wisconsin. **C** The relationship between the customers' loan market and the open market for loanable funds. **D** 7, 1, 2. **E** Text and trade book on banking process today. **F** Money and banking (Macmillan, 1941); "The customers' loan market and the open market supply of loanable funds," J.P.E., Feb., 1933. **G** S.

PETERSON, (Mrs.) Mary Shine, 304 Princeton Ave., Madison, Wis. (1920) **B** B.A., M.A., 1902, Cincinnati; Ph.D., 1922, Wisconsin. **C** Ideas of founders of American nation on landed property. **D** 2, 16, 19. **E** Evolution of economic society. **F** Outlines of land economics (with R. T. Ely and G. S. Wehrwein) (3 vols., 1922), Urban land economics (with R. T. Ely et al.) (1922) (Edwards Bros.).

PETERSON, Nicholas E., 96 Abbott Rd., Wellesley Hills, Mass. (1940)

PETERSON, Rudolph, 129 S. 13th St., Lewisburg, Pa. (1925) **A** Bucknell Univ., prof. of econ., T. **B** B.S., 1915, Bucknell; A.M., 1923, Ph.D., 1925, Iowa. **D** 1, 6, 17. **E** Moral nature of the state. **F** "Who pays for war?" Christian Cent., Oct. 8, 1936. **G** S.

PETRUZZELLI, Nicholas Michael, 2013 2nd St., N.E., No. 2, Washington, D.C. (1941) **A** U. S. Bur. of For. and Dom. Com., Co-ordination of Int. Statis. Unit, Europe-Africa Sec., chief, RA. **B** A.B., 1937, Portland; M.A., 1939, Catholic. **D** 8, 17, 1. **E** Economic and social aspects of the Inter-American Coffee Agreement (doctoral dissertation, Catholic).

PETSHEK, Kurt Russell, Middlebury Col., Dept. of Econ., Middlebury, Vt. (1941) **A** Middlebury Col., instr., T. **B** Dr. Jur., 1936, Univ. of Vienna; M.A., 1940, Harvard. **C** Economic theory of collective bargaining. **D** 17, 10, 11. **E** Relationship of wages and employment in trade union policy; industry-wide collective bargaining and its economic consequences. **F** The enforcement of collective agreements (Zentralblatt, Vienna, 1937).

PETTEE, James Charles, 1404 Oglethorpe St., N.W., Apt. 4, Washington, D.C. (1936)

PETTENGILL, Robert Bunnell, Univ. of Southern California, Dept. of Econ., Los Angeles, Calif. (1934) **A** Univ. of Southern California, asso. prof., T. **B** A.B., 1926, M.A., 1928, Arizona; Ph.D., 1934, Stanford. **C** United States foreign trade in copper, 1790-1932. **D** 1, 8, 3. **E** Effect of general price ceiling upon retail food prices in Los Angeles. **F** Price theory (Univ. of Southern California, 1940); Distribution theory (Univ. of Southern California, 1941); "Division of the tax burden among income groups in the United States in 1936," A.E.R., Mar., 1940. **G** S.

PETTET, Zellmer Roswell, Bur. of the Census, Washington, D.C. (1940) **A** Bur. of the Census, chief statis., A. **B** Ph.B., 1902, Chicago. **D** 15, 11, 4. **E** Farm identification as an aid to research; integration of census statistics with data from private questionnaires. **F** Farm horse (Census, 1933); "Farm census furnishes basis for new school projects," Agric. Educa., 1937; "Farm census figures in action," News for Farmer Co-operatives, 1937. **G** W.

PHELPS, Clyde William, Univ. of Chattanooga, Chattanooga, Tenn. (1927) **A** Univ. of Chattanooga, Dept. of Econ., head, T. **B** A.B., 1922, Harvard; Dr. Sc. Ec., Univ. of Toulouse, France. **C** Banques Américaines en France (Dalloz, Paris, 1924). **D** 12, 7, 1. **E** Retail credit management; economics of credit. **F** The foreign expansion of American banks (Ronald Press, 1927); "Installment credit principles reconsidered," Jour. of Market., Jan., 1938; Retail credit fundamentals (Nat. Retail Credit Asso., 1938). **G** W.

PHELPS, Dudley Maynard, Univ. of Michigan, Tappan Hall, Ann Arbor, Mich. (1939) **A American Embassy, Caracas, Venezuela, sr. econ. anal.**; Univ. of Michigan, School of Bus. Admin., prof. **B**. A.B., 1925, M.B.A., 1926, Ph.D., 1931, Michigan. **C** Effect of the foreign market on the growth and stability of the automobile industry (Michigan Bus. Studies). **D** 12, 8, 11. **E** Sales management. **F** Migration of industry to South America (McGraw-Hill, 1936); contributing editor in econ., 1935-40; Marketing research (Univ. of Michigan, Bur. of Bus. Res., 1938). **G** S.

PHELPS, Esmond, 321 St. Charles St., New Orleans, La. (1911)

PHELPS, Vernon Lovell, Great Falls St., East Falls Church, Va. (1937)

PHILLIPS, Chester Arthur, 721 N. Linn St., Iowa City, Iowa. (1915)

PHILLIPS, Edmund John, Jr., 694 Forest Ave., Glen Ellyn, Ill. (1939)

PHILLIPS, Merton Ogden, Washington and Lee Univ., Lexington, Va. (1927) **A** Washington and Lee Univ., prof. of econ. and com., T. **B** A.B., 1924, Miami Univ.; M.A., 1926, Ph.D., 1937, North Carolina. **C** Tramp shipping: its changing position in world trade. **D** 16, 14, 8. **E** Tramp shipping. **F** North America (with J. Russell Smith) (Harcourt,

Brace, 1940); Report of United States Maritime Commission on tramp shipping service (H.D. 520, 1938); "Manufacturing in the Federal District, Mexico," Econ. Geog., 1933.

PHILLIPS, Stanley Albin, 490 Sheridan Rd., Evanston, Ill. (1937)

PHILLIPS, William John, Jr., Southwestern Louisiana Inst., Lafayette, La. (1938) **A** Southwestern Louisiana Inst., asst. prof. of econ., T. **B** B.A., 1932, M.A., 1933, Tulane. **D** 17, 2, 5. **E** Nature of the growth of trade-unionism in the U.S., 1897-1914. **F** "Economic development of building and loan associations in Louisiana," La. Com. Teacher, May, 1941. **G** S.

PHILLIPS, William Taylor, Durham, N.H. (1941) **A U. S. Dept. of Labor, Bur. of Labor Statis., ind. econ., RA;** Univ. of New Hampshire, asst. prof., T. **B** A.B., 1932, Allegheny; Ph.D., 1942, Cornell. **C** History and operation of the Office of the Comptroller of the Currency. **D** 7, 9, 5. **E** N. H. commercial banks.

PHINNEY, Josiah Thompson, 122 McCartney St., Easton, Pa. (1931) **A** Lafayette Col., asso. prof. econ., T. **B** A.B., 1923, Yale; Ph.D., 1931, Harvard. **C** Gold production and the price level (pub. as Gold production and the price level: the Cassel three per cent estimate, Q.J.E., Aug., 1933, and Growth of Trade to 1913, J.P.E., Aug., 1934). **D** 1, 7, 18. **G** S.

PHIPPS, Irving Rogers, 255 Park Ave., Munsey Pk., Manhasset, L.I., N.Y. 1929)

***PHIPPS, Lawrence C.,** 610 Denver Nat. Bldg., Denver, Colo. (1901)

PICKETT, Ralph Russell, 1721 E. Wilman Ct., Emporia, Kan. (1925) **A** Kansas State Teachers Col. dept. head, prof. of com., T. **B** A.B., 1919, Missouri Wesleyan; A.M., 1924, Ph.D., 1930, Chicago. **C** Federal Reserve Bank policy in Iowa (Univ. of Chicago Press, 1931). **D** 9, 7, 10. **E** Co-author of text on investments. **F** "The size of failed national banks," Jour. of Bus. (Univ. of Chicago), 1934.

PIERSON, Frank Cook, Swarthmore Col., Swarthmore, Pa. (1940) **A** Swarthmore Col., asst. prof., T. **B** B.A., 1934, Swarthmore; M.A., 1939, Ph.D., 1942, Columbia. **C** Collective bargaining systems (Amer. Coun. on Pub. Affairs, 1942). **D** 17, 7, 5. **E** Internal affairs of trade unions. **F** "Determination of minimum wage rates," A.E.R., Mar., 1940.

PIERSON, John Herman Groesbeck, 3424 Q St., N.W., Washington, D.C. (1934) **A** U. S. Bur. of Labor Statis., Postwar Div., Inst. Studies Sec., chief, sr. econ. **B** B.A., 1927, Ph.D., 1938, Yale. **C** An essay on the possibilities of monetary control. **D** 1, 3, 6. **E** Postwar problems. **F** Full employment (Yale Univ. Press, 1941).

‡**PIGOU, Arthur Cecil,** King's Col., Cambridge, England. (1922)

PIKE, Eugene Rockwell, 6 N. Michigan Ave., Chicago, Ill. (1916) **A** Eugene S. Pike Estate Land Trust, trustee, B. **B** B.A., 1890, Yale; LL.B., 1892, Northwestern. **D** 9, 6, 5.

PINCHBECK, Raymond Bennett, Univ. of Richmond, Richmond, Va. (1923) **A** Univ. of Richmond, Richmond Col., dean, prof. of ap. econ., TA. **B** B.S., 1922, M.S., 1923, Ph.D., 1925, Virginia. **C** The Virginia Negro artisan and tradesman (William Byrd Press, Richmond, Va., 1926). **D** 17, 18, 6. **E** Price control and rationing and their effect on Va. industry and trade. **F** A study of Richmond, Virginia (Dudley Print. Co., Richmond, 1934); Next steps in taxation and government in Virginia (Va. State Chamber of Com., 1936); contributor, Unemployment reserves for Virginia (Governor's Com. Report, 1934). **G** W.

PINO, Nicolo. 430 W. Wing St., Arlington Heights, Ill. (1942) **A** People's Gas. Light and Coke Co., RB. **B** A.B., M.B.A., 1938, Michigan. **D** 12, 8, 4. **E** Load characteristics of public utility customers; statistical distribution of domestic bills of a public utility.

PIPER, Clarence Brett, 2195 Orlando Rd., Pasadena, Calif. (1921) **A** Investment adviser. **B** LL.B., 1905, Cornell; M.B.A., 1923, Harvard. **D** 9, 5, 4.

PIQUET, Howard S., 2209 Yorktown Rd., N.W., Washington, D.C. (1927) **A** U. S. Tariff Com., Econ. Div., chief; American Univ., adjunct prof. of econ. theory; TR. **B** B.S., 1924, New York; M.A., 1926, California; Ph.D., 1930, Princeton. **C** Building and loan associations in New Jersey (Princeton Univ. Press, 1930). **D** 1, 8, 6. **F** Outline of New Deal legislation (McGraw-Hill, rev. 1934). **G** S.

PITIGLIANI, Fausto R., 97 Ft. Washington Ave., New York City. (1938) **A** Pittrade Co., partner, B. **B** Ph.D., 1924, J.D., 1926, Univ. of Rome. **C** British influence in Near East; The housing problem in Rome (Rivista Internazionale di Scienze Sociali, 1927, Milan). **D** 3, 8, 10. **E** Report on Italian economic conditions; national roster of alien specialized personnel. **F** The Italian corporative state (P. S. King and Son., London, 1933; Macmillan, 1934); "The development of Italian cartels," J.P.E., 1940; "Government price fixing," S.E.J., 1941.

PITT, Courtnay Hamilton, Philco Corp., Philadelphia, Pa. (1936) **A** Philco Corp., econ., B. **B** A.B., 1929, A.M., 1934, Ph.D., 1935, Princeton. **C** Guatemala's currency history. **D** 7, 6. **E** Bringing study of Guatemala's currency and banking history up to date.

PLONSKY, Allenby, Palatine, Ill. (1942) **A** Farming. **B** B.S., 1940, M.S., 1941, Illinois. **D** 15, 1, 4. **E** Economic aspects of relation to agricultural community of farms of Chicago owners.

PLOWMAN, E(dward) Grosvenor, 745 Steele St., Denver, Colo. (1922) **A** Colo. Fuel and Iron Corp., exec., B; Univ. of Denver, School of Com., lecturer, T. **B** Ph.D., 1937, Chicago. **C** Management of municipal water utilities. **D** 11, 10, 14. **F** Business organization and management (Irwin, 1941). **G** W.

PLUM, Lester V., 10 College Rd., Princeton, N.J. (1940)

PLUMLEY, Alden Joseph, Univ. of Nevada, Dept. of Econ., Reno, Nev. (1928) **A** Univ. of Nevada, asst. prof., T; Nev. Employ. Sec. Dept., statis. consultant, R. **B** A.B., 1929, Nevada; A.M., 1932, Brown. **D** 7, 4, 18. **E** Bankers as directors of the loan fund (doctoral dissertation).

PLUMMER, Wilbur Clayton, Univ. of Pennsylvania, Bennett Hall, Philadelphia, Pa. (1925) **A** Univ. of Pennsylvania, prof., T. **B** A.B., 1910, LL.D., 1939, Lebanon Valley Col.; A.M., 1922, Ph.D., 1924, Pennsylvania. **C** The road policy of Pennsylvania (privately pub., 1925). **D** 1, 19, 7. **E** History of consumers' credit in U.S. **F** "Social and economic consequences of buying on the installment plan," The Annals, 1927; co-author, Sales finance companies and their credit practices (Nat. Bur. of Econ. Res., 1940). **G** S.

POGUE, Joseph Ezekiel, 18 Pine St., New York City. (1924) **A** Chase Nat. Bank, vice-pres. **B** A.B., 1906, M.S., 1907, North Carolina; Ph.D., 1909, Yale. **D** 13, 4, 3. **F** The economics of petroleum (Wiley, 1921); The economics of the petroleum industry (booklet, Chase Nat. Bank, 1939). **G** WS.

POINDEXTER, J. Carl, Col. of William and Mary, Williamsburg, Va. (1939) **A** Col. of William and Mary, acting asst. prof. of econ., T. **B** B.S., 1933, M.A., 1940, Virginia. **D** 10, 17, 6. **E** Distribution of efficiency of TVA power outlets; municipalities and co-operatives.

POLITTE, Ralph H., 470 N St., S.W., Washington, D.C. (1942)

POLLARD, George Marvin, 2308 10th St., N., Arlington, Va. (1938) **A WPB, Div. of Statis., Export Require. Unit, econ. statis., R. B** A.B., 1934, M.A., 1939, George Washington. **D** 10, 11, 12. **E** Estimating probable exports of iron, steel, copper, etc., chiefly as Lend-Lease and under export control.

POLLOCK, Frederick, 429 W. 117th St., New York City. (1934) **A** Inst. of Soc. Res., Columbia Univ., acting dir., RA. **B** Dr. rer. pol., 1923, Privatdozent, 1927, Univ. of Frankfurt a. M. **C** The monetary theory of K. Marx. **D** 10, 3, 5. **E** Postwar reconstruction. **F** Planning in Soviet Russia (Hirschfeld, Leipzig, 1928); State capitalism (Studies in Phil. and Soc. Sci., 1941).

POLLOCK, Kenneth William, 1415 S. Judson St., Ft. Scott, Kan. (1933) **A** Pollock-Key Co., mgr., B. **B** B.A., 1929, Wisconsin; M.B.A., 1938, North-

western. D 11, 9, 17. F "Use of therblig times for rate setting," Jour. of Soc. Adv. Manage., 1937.

POLYZOIDES, Adamantios Th., Univ. of Southern California, School of Jour., Los Angeles, Calif. (1940)

POND, A(lonzo) Smith, Brigham Young Univ., Provo, Utah. (1938) A Brigham Young Univ., asst. prof. of econ., T. B A.B., 1926, Utah; Ph.D., 1942, Northwestern. C Urban special assessments in downstate Illinois, 1925-37 (pub., with modifications, by Ill. Tax Com.). D 6, 15, 9.

POND, Addison, 91 Center St., Richford, Vt. (1939)

POOLE, Kenyon Edwards, Brown Univ., Dept. of Econ., Providence, R.I. (1937) **A U. S. Treas., Div. of Tax Res., sr. econ. anal.;** Brown Univ., asst. prof., TR. B A.B., 1929, Ph.D., 1938, Harvard; A.M., 1934, Fletcher School. C German financial policies, 1932-39 (Harvard Univ. Press, 1939). D 6, 1, 7. E U. S. fiscal system. F "The problem of simplicity in the enactment of tax legislation," J.P.E., Dec., 1941; "The Papen plan for tax remission," Q.J.E., Feb., 1939. G S.

PORTER, Arthur Reno, Jr., 337 Riverview Ave., Drexel Hill, Pa. (1941) A Univ. of Pennsylvania, Wharton School, instr. in econ. and statis., T. B B.S. in Com., 1940, Washington and Lee. D 1, 4, 3.

POTTER, Alden Archibald, R.F.D. 3, Bethesda, Md. (1942) **A U. S. Congress, clerk, R.** B B.Agric., 1909, Minnesota; grad. work, 1935-39, American. D 7, 1, 15. E An act to prevent wartime inflation and postwar depression. F "What is economic value?" Dynamic Amer., Nov., Dec., 1938; "Is there tragedy in investment?" Cong. Rec., 1940; "Whaddayamean—'income'?" Cong. Rec., 1942.

POTTER, A(lfred) Neal, 402 N. Oxford, Arlington, Va. (1941) **A OPA, asso. econ., R.** B B.A., 1937, M.A., 1940, Minnesota. D 6, 7, 1. E Estimates of taxation and inflation.

POTTER, E. L., 231 S. 9th St., Corvallis, Ore. (1941)

POTTER, Helen, 1499 Irving St., N.W., Washington, D.C. (1938)

POULTON, Edgar Earl, 744 Ingraham St., N.W., Washington, D.C. (1942) **A U. S. Bur. of Labor Statis., asst. econ., R.** B A.B., 1937, Marietta Col.; M.A., 1938, Cincinnati; grad. work, 1938-40, Ohio State. D 17, 5, 7. E Postwar.

POWELL, Leona M., Amer. Manage. Asso., 330 W. 42nd St., New York City. (1926)

POWELL, Oliver Stanley, 73 S. 5th St., Minneapolis, Minn. (1927) A Fed. Res. Bank, first vice-pres., B. B B.A., 1917, Minnesota. D 7, 2, 8.

POWELL, Weldon, Pacific Mutual Bldg., Los Angeles, Calif. (1924) A Haskins and Sells, partner, B. B B.S., 1922, M.S., 1923, Illinois. D 4. F Capital stock without par value (with John R. Wildman) (A. W. Shaw, 1928).

PRATHER, Charles Lee, 926 Westmoreland Ave., Syracuse, N.Y. (1931) A Syracuse Univ. B B.Ed., 1922, Eastern Illinois State Teachers Col.; M.A., 1923, Ph.D., 1927, Illinois. C Gold policy of the Federal Reserve System. D 7, 6, 1. E Revision of Money and banking; bank administration. F Money and banking (Irwin, 1940).

PREHN, Edward Christopher, Jr., 429 Clove Rd., West New Brighton, S.I., N.Y. (1937)

PREINREICH, Gabriel A. D., 17 E. 42nd St., New York City. (1940) A C.P.A., B. B B.S., M.B.A., 1928, City of New York; Ph.D., 1935, Columbia. C The nature of dividends (Lancaster Press). D 4, 6, 9. E Economics of natural resources, treated as discontinuous problems in the calculus of variations. F "The economic life of industrial equipment," Econometrica, Jan., 1940; The present status of renewal theory (Waverly Press, 1940); Theory and general principles of depreciation (Waverly Press, 1941).

PRENTICE, James Stuart, Middlebury Col., Middlebury, Vt. (1935)

PRESSER, Isaac, 100 Van Cortlandt Pk. S., Bronx, New York City. (1940)

PRESTON, Howard Hall, Univ. of Washington, Col. and Econ. and Bus., Seattle, Wash. (1918) A Univ. of Washington, dean, prof. of money and banking, TA. B B.S., 1911, LL.D., 1938, Coe; M.A., 1914, Ph.D., 1920, Iowa. C History of banking in Iowa (State Hist. Soc. of Iowa, 1922). D 7, 10, 9. F "Branch banking in California," J.P.E., Vol. XXX; "Bank of America," Jour. of Econ. and Bus. Hist., Vol. IV; "Banking Act of 1933," A.E.R., Dec., 1933. G S.

PRESTON, Stanley Wales, Box 3415, University, La. (1933)

PREWITT, Roy A., 2705 Upshur St., Mt. Rainier, Md. (1940) **A U. S. Treas. Dept., Div. of Tax Res., asso. econ., R;** Central Missouri State Teachers Col., asso. prof. of econ. and com., T. B B.S.B.A., 1934, M.A., 1936, Missouri; grad. work, 1939-41, Cornell. D 11, 17, 18. E Transportation in relation to the structure and control of the petroleum industry (doctoral dissertation). F A survey of the labor market in Missouri in relation to unemployment compensation (Washington Univ. Press, 1937); "The operation and regulation of crude oil and gasoline pipe lines in the United States," Q.J.E., 1942.

PRIBRAM, Karl, 3625 16th St., N.W., Washington, D.C. (1939) A Soc. Sec. Bd., expert, A. B Dr. Jur., 1901, Univ. of Prague. C Workers' wages and their protection (Vienna, 1904). D 1, 19, 16. E History of the development of economic reasoning; political and social importance of patterns of thought. F Cartel problems (Brookings, 1935); "The notion of 'economic system'," Rev. of Econ. Statis., May, 1937; "Urban ground rents and their cyclical fluctuations," Econometrica, Jan., 1940. G S.

PRICE, Hugh Bruce, Univ. of Kentucky, Dept. of Markets and Rural Fin., Lexington, Ky. (1918)

PRIME, John Henry, New York Univ., School of Com., Washington Sq., New York City. (1925) A New York Univ., dir. of admissions, prof. of fin., TA. B B.S., 1922, M.A., 1923, Ph.D., 1933, New York. C A study of university endowment with particular reference to the investment policy of the large endowed institution. D 9, 1, 3. F Analysis of industrial securities (Prentice-Hall, 1935). G S.

PRITCHARD, Leland James, 1214 W. 19th, Cedar Falls, Iowa. (1940)

PRUEFER, Clifford, 2314 19th St., N.W., Washington, D.C. (1939) **A OPA, econ., A.** B Com. Engr., 1937, Cincinnati; M.A., 1939, Minnesota. D 10, 3, 17. E Administrative organization for economic warfare; descriptive history—price control World War II; importance of timing in postwar economic administrative adjustments. F "The excess profits tax and defense financing," S.E.J., July, 1941; "Classification in the federal service and the emergency," Amer. Polit. Sci. Rev., June, 1941.

PUCKETT, Erastus Paul, Central Col., Fayette, Mo. (1935)

PUFFER, Claude E., Univ. of Buffalo, Dept. of Econ., Buffalo, N.Y. (1941) A Univ. of Buffalo, T. B B.B.A., 1932, M.A., 1933, Univ. of Washington; Ph.D., 1940, Stanford. C Federal regulation of commercial air transportation. D 1, 14, 6. E Economic aspects of transportation; public control of transportation; shifting of taxes. F Air transportation (Blakiston, 1941).

PURDY, Donald Adolph, 916 F St., Sparks, Nev. (1942) **A Univ. of Nevada, student.** D 1, 14, 4.

PURDY, Henry Leslie, Dartmouth Col., Hanover, N.H. (1939) **A Bd. of Investigation and Res., asst. dir. of res., R;** Dartmouth Col., prof., T. B B.A., 1926, British Columbia; M.A., 1928, Univ. of Washington; Ph.D., 1936, Chicago. C The regulation of transportation rates. D 10, 14, 5. E Government control of private industry. F Cost of municipal operation of the Seattle street railways (Univ. of Washington Press, 1929); "The regulation of transportation rates," The Annals, 1936.

PYLE, Hugh Gillespie, 743 McKee St., State College, Pa. (1931) A Pennsylvania State Col., super. of informal instr., A. B B.A., 1925, M.A., 1930, Pennsylvania State Col.; grad. work, 1930-31, Harvard. D 1, 18, 10. F "Training for war industry through the schools," Jour. of Educa. Soc., Feb., 1942; "Adult education," in Amer. Yearbook (1941).

PYLE, John Freeman, 1217 W. Wisconsin Ave., Milwaukee, Wis. (1926) A Marquette Univ., Col. of Bus., dean, Dept. of Econ., prof. of econ. and market., TA. B Ph.B., 1917, A.M., 1918, Ph.D., 1925, Chicago. C The retail sales place in marketing strategy (parts pub. in Harvard Bus. Rev. and Jour. of Bus.). D 12, 11, 10. F Marketing organization and principles (McGraw-Hill, rev. 1936); Marketing management (Univ. Lith. Co., 1942). G WSE.

PYMM, J. Donald, Fresno State Col., Fresno, Calif. (1939) A Fresno State Col., asst. prof. of econ., T. B A.B., 1923, M.A., 1924, California. D 6, 17, 7.

QUIRIN, E(ugene) Lafayette, 29 Boulevard Rd., Wellesley Hills, Mass. (1940) A Babson's Reports, dir. of res., R. B B.S., 1924, M.I.T. D 5, 9, 1.

RANCK, Samuel H., Grand Rapids Pub. Lib., Grand Rapids, Mich. (1906)

RANKIN, John O., Hayti, Mo. (1937)

RANSOM, William Lynn, 40 Wall St., New York City. (1924) A Whitman, Ransom, Coulson and Goetz, law partner, B. B LL.B., 1905, Cornell. D 17, 10, 11. G W.

RAPER, Charles Lee, 700 Ackerman Ave., Syracuse, N.Y. (1902) A Syracuse Univ., Col. of Bus. Admin., dean, vice-chancellor, TA. B A.B., 1892, LL.D., 1939, Duke; Ph.D., 1902, Columbia; LL.D., 1917, Lenoir-Rhyne. C North Carolina—a study in English colonial government (Macmillan, 1904). D 14, 6. F Railway transportation (Putnams, 1912); The principles of wealth and welfare (Macmillan, 1906). G WSE.

RAPP, Robert Edward, 10844 Rochester Ave., Los Angeles, Calif. (1937) A Univ. of California at Los Angeles, asst. prof. of econ., TR. B A.B., 1926, M.A., 1927, Ph.D., 1937, Stanford. C Some aspects of the rural relief problem in California as revealed in ten selected counties. D 6, 7, 14. E Federal fiscal policy in the war and postwar period. F The economic problem of rural relief in California (Rural Res. Buls. 1-11, WPA, 1936); "The Hamilton National Associates, Inc.—a case study in group banking," parts I and II, S.E.J., July, 1942, et seq. G S.

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RATCHFORD, B(enjamin) Ulysses, Box 4727, Duke Sta., Durham, N.C. (1929) A Duke Univ., asso. prof. of econ., T. B B.S., 1926, Davidson; A.M., 1927, Ph.D., 1932, Duke. C A history of the North Carolina state debt. D 6, 7, 1. E Economic effects of a domestic public debt. F American state debts (Duke Univ. Press, 1941); "A formula for limiting state and local debts," Q.J.E., Nov., 1936; "Public debts in the South," S.E.J., Jan., 1936. G S.

RATCLIFF, Richard U., 207 Tappan Hall, Ann Arbor, Mich. (1935) A Nat. Hous. Agency, prin. econ., R; Univ. of Michigan, asst. prof., TR. B B.A., 1927, Wisconsin; M.B.A., 1934, Ph.D., 1935, Michigan. C Outlying retail nucleations in Detroit, Michigan. D 16, 11, 10. F European housing policies and practice (with Ernest M. Fisher) (FHA, 1937); Retail site selection (Bur. of Bus. Res., Univ. of Michigan, 1940).

RATH, John Joseph, L. B. Harrison Club, Cincinnati, Ohio. (1941) A Xavier Univ., instr., T B B.S., 1938, Detroit; M.B.A., 1939, New York. D 1, 12, 17. E Inflation—how to check it.

RATNER, Sidney, 2901 18th St., N.W., Washington, D.C. (1939) A BEW, econ., R; T. B B.A., 1930, City of New York; M.A., 1931, Ph.D., 1942, Columbia. C A political and social history of federal taxation 1789-1913, with special reference to the income tax and the inheritance tax (W. W. Norton, 1942). D 6, 8, 10. E Federal fiscal policy in the Second World War. F American taxation: its history as a social force in democracy (W. W. Norton, 1942); "Was the Supreme Court packed by President Grant?" Polit. Sci. Quar., 1935; editor, The philosopher of the common man: essays in honor of John Dewey (Putnam, 1940).

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RAUSHENBUSH, Carl, 85 Marquand Ave., Bronxville, N.Y. 1931) A U. S. Employ. Serv. for N.Y., Res. Div., sr. econ., R. B A.B. 1922, Amherst; Ph.D., 1931, New York. C Conciliation and arbitration as methods of settling labor disputes in the United States. D 17, 18, 14. F Co-editor, Labor cases and materials (Crofts, 1941); "The State's relation to labor," in Labor problems in America (Farrar and Rinehart, 1940). G S.

RAUSHENBUSH, Paul A., 2228 Hillington Green, Madison, Wis. (1923)

RAUTENSTRAUCH, Walter, Columbia Univ., New York City. (1940) A Columbia Univ., TR. B B.S., 1902, LL.D., 1932, Missouri; M.S., 1903, Maine. D 11, 13, 19. E Industrial economics. F Economics of business enterprise (Wiley, 1939); Design of manufacturing enterprise (Pitman, 1941). G W.

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RAYNES, George W., 209 Miller Ave., Portsmouth, N.H. (1914) B A.B., 1890, Yale.

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READ, George Johnston, 4 Irving Pl., New York City. (1941)

READ, Leonard Edward, 1151 S. Broadway, Los Angeles, Calif. (1937) A Los Angeles Chamber of Com., gen. mgr., A. D 3, 6, 12. F The romance of reality (Dodd, Mead, 1937). G W.

READ, W. Harold, Univ. of Tennessee, Box 4237, Knoxville, Tenn. (1941) A Univ. of Tennessee, asso. prof. of acctg., T. B B.S.C., 1930, Tennesee; M.B.A., 1935, Northwestern. D 4, 6, 9. E State supervision of local finance in Tenn. (doctoral dissertation); accounting manual for Tenn. municipalities. F Accounting manual for Tennessee counties (1938), Local-government accounting (1940), Minimum accounting standards (1940) (Univ. of Tennessee Press).

REBELÉ, Ralph H., 4 Montgomery St., San Francisco, Calif. (1941)

REBER, Hugh Jackson, 1 Wall St., New York City. (1942) A WPB, admin. consultant, A; Fiduciary Trust Co. of N.Y., vice-pres., secy., B. B B.A., 1914, Wisconsin; M.A., 1917, Chicago; C.P.A. 1923, Illinois. D 6, 7, 5.

REDDICK, Olive Irene, Hood Col., Frederick Md. (1930) A Hood Col., dept. head, prof., T. B M.A., 1921, Columbia; M.A., 1928, Ph.D., 1932, Radcliffe. C Labor relations in Los Angeles. D 17, 8 2. G S.

REDLICH, Fritz Leonhard, Mercer Univ., Macon, Ga. (1937) A Mercer Univ., Dept. of Econ. head, TR. B Ph.D., 1914, Univ. of Berlin. C Die volkswirtschaftliche Bedeutung der Deutschen Teerfarbenindustrie (Schmollers Forschungen, Munich, Leipzig, 1914). D 2, 7, 17. E Personal element in the development of American banking. F Rauschgifte und Suchetn (Schroeder, Bonn, 1928); Reklame, Begriff, Geschichte, Theorie (Enke, Stuttgart, 1935); History of American business leaders, Vol. I (Edwards Bros., 1940). G S.

REDPATH, John Martin, R.F.D. 3, Rockville Md. (1924)

REECE, B. Carroll, 1129 House Office Bldg. Washington, D.C. (1942)

REED, Edward W., Univ. of Louisville, Louisville, Ky. (1940) A Univ. of Louisville, asst. prof. T. B B.Ed., 1936, Southern Illinois Normal Univ. M.A., 1937, Illinois. D 6, 10, 2. E Doctoral dissertation.

REED, Harold Lyle, 422 Cayuga Hghts. Rd. Ithaca, N.Y. (1912) A Cornell Univ., prof. B A.B. 1911, Oberlin; Ph.D., 1914, Cornell. C The development of a qualified gold exchange standard in India. D 7, 5, 1. F Principles of corporation

finance (Houghton Mifflin, 1925); Federal Reserve policy, 1921-30 (McGraw-Hill, 1930); Money, currency, and banking (McGraw-Hill, 1942). G WS.

REEDY, Theodore W., 316 N. Thomas St., Arlington, Va. (1940)

REEVE, Joseph Edwin, 5745 Lambeth Rd., Bethesda, Md. (1931) A U. S. Bur. of the Budget, sr. fiscal anal., R. B B.A., 1929, Amherst; Ph.D., 1939, Chicago. C Monetary proposals for curing the depression in the United States, 1929-35. D 7, 6, 5. E Book on monetary reform movements.

REICH, Joseph, 1675 Grand Concourse, New York City. (1940) **A OPA, econ., R. B** B.S., 1939, New York; A.M., 1940, Columbia. D 11, 1, 17. E Competitive effects of "plane of competition" regulation.

REICH, Nathan, 840 Grand Concourse, New York City. (1936) A Hunter Col., asst. prof., T. B B.A., 1925, M.A., 1926, McGill; Ph.D., 1938, Columbia. C Labor relations in Republican Germany (Oxford Univ. Press, 1938). D 1, 17, 3. E Applicability of democratic principles and procedure to economic activities. F Canadian pulp and paper industry (mono., Macmillan of Canada, 1927).

REID, Margaret Gilpin, Iowa State Col., Ames, Iowa. (1932) A Iowa State Col., prof. of econ. B B.Sc. (H.Ec.), 1921, Manitoba; Ph.D., 1931, Chicago. C Economics of household production (Wiley, 1934). D 19, 12, 3. F Consumers and the market (Crofts, 1938); Food for people (Wiley, 1942). G E.

REIERSON, Roy Lester, 16 Wall St., New York City (1929) **A U. S. Navy, Bur. of Aero., lieut., A;** Bankers Trust Co., econ. anal., B; New York Univ., lecturer, T. B B.A., 1926, St. Olaf; M.B.A., 1929, Ph.D., 1935, Northwestern; C.P.A., 1933, Illinois. C Measurement of the price of public utility capital, 1919-35. D 9, 7, 14. E Survey of cases arising under the Pub. Util. Hold. Co. Act.

REILLY, Edward Ernest, Univ. of Western Ontario, London, Ont., Canada. (1936) **A Dept. of Pensions and Nat. Health, econ. adviser;** Univ. of Western Ontario, prof., T. B B.S.A., 1916, Toronto; M.S., 1924, Wisconsin. D 7, 5, 6. E Public health insurance. F "The use of the elasticity concept in economic theory," Canadian Jour. of Econ. and Polit. Sci., Feb., 1940.

REINER, James, 520 N. Michigan Ave., Chicago, Ill. (1936) A Midland Acceptance Corp., Bankers Com. Corp., exec. vice-pres.; B.C.S. Corp., Beacon Loan Co., pres.; Mt. Beacon Insurance Co., vice-pres.; B. D 1, 5, 2.

REINHARDT, Hedwig, 779 Riverside Dr., New York City. (1942)

REINHARDT, John F., 15 W. 10th St., Kansas City, Mo. (1939)

REMER, Charles Frederick, Office of the Co-ord. of Information, 25th and E Sts., N.W., Washington, D.C. (1923) **A Co-ord. of Information, Far Eastern Sec., chief, RA;** Univ. of Michigan, prof. of econ., TR. B B.A., 1908, Minnesota; M.A., 1917, Ph.D., 1923, Harvard. C The foreign trade of China (Commercial Press, Shanghai, 1926). D 8, 2, 9. E International direct investments. F Foreign investments in China (Macmillan, 1933); "International trade between gold and silver using countries," Q.J.E., 1926; "Investments in kind," in Explorations in economics (volume in honor of Taussig) (1936). G WS.

RENNE, Roland Roger, Montana State Col., Dept. of Agric. Econ., Bozeman, Mont. (1931) A Montana State Col., Dept. of Econ. and Soc. and Agric. Econ., head, TRA. B B.S., 1927, Rutgers; M.S., 1928, Ph.D., 1930, Wisconsin. C The tariff on dairy products (Tariff Res. Com., Madison, 1933). D 15, 6, 10. E Income and land taxation; land use; war effects on agriculture; state and local government administration. F Montana county organization, services, and costs (Bul. 298, 1935), Montana land ownership (Bul. 322, 1936) (Mont. Agric. Exp. Sta.); The Montana citizen (with J. Wesley Hoffman) (State Pub. Co., Helena, rev. 1940). G SE.

REYNOLDS, Alice Jimmyer (Mrs. Richard A.), 627 Regester Ave., Baltimore, Md. (1940) A Goucher Col., asst. prof., T. B A.B., 1929, Goucher; grad. work, 1936-39, Johns Hopkins. D 8, 6, 10. E Commerce of the Port of Baltimore, 1880-1936 (doctoral dissertation).

REYNOLDS, Lloyd George, Johns Hopkins Univ., Dept. of Polit. Econ., Baltimore, Md. (1937) **A OPA, reg. price exec., A;** Johns Hopkins Univ., asso. prof., TR. B B.A., 1931, Alberta; M.A., 1933, McGill; Ph.D., 1936, Harvard. C The British immigrant in Canada (Oxford Univ. Press, 1935). D 17, 11, 10. E Effect of employment fluctuations on the composition of the labor force; bibliography and topical index of American trade union publications; effect of union organization on wage rates in the pulp and paper industry. F "Competition in the rubber tire industry," A.E.R., Sept., 1938; The control of competition in Canada (Harvard Univ. Press, 1940); "Relations between wage rates, costs, and prices," A.E.R., Mar. Sup., 1942. G S.

REYNOLDS, Thomas Jesse, 517 W. 113th St., New York City. (1941) A Univ. of Newark, asst. prof., T. B A.B., 1933, Swarthmore; M.A., 1935, Columbia. D 6, 10, 4. E Cyclical behavior of the American property tax (doctoral dissertation).

RHODES, Edward Everett, 300 Broadway, Newark, N.J. (1923) A Mut. Benefit Life Ins. Co., vice-pres., B. D 9, 6, 18. G W.

RICE, Lloyd Preston, 4 Webster Ter., Hanover, N.H. (1915) A Dartmouth Col., prof., T. B A.B., 1913, Wesleyan Univ.; A.M., 1914, Ph.D., 1920, Harvard. C The general property tax in colonial Connecticut. D 6, 15, 10. E Federal tax system and tax problems. F Report of tax commission of Philippines on national internal revenue laws (Philippine Gov., 1939); Financing social security by pay roll taxes (Tax Policy League Symposium, 1937). G WSE.

RICE, Stuart Arthur, U. S. Bur. of the Budget, Washington, D.C. (1929) A Bur. of the Budget, asst. dir. in charge of statis. standards, A. B A.B., 1912, A.M., 1915, Univ. of Washington; Ph.D., 1923, Columbia. C Farmers and workers in American politics (Columbia Univ. Press, 1924). D 10, 20, 4. F Quantitative methods in politics (Crofts, 1928); Methods in social science (Univ. of Chicago Press, 1931); "Role and management of the federal statistical system," Amer. Polit. Sci. Rev., 1940. G WSIE.

RICHARDS, Cecil Sydney, Univ. of the Witwatersrand, Milner Pk., Johannesburg, So. Africa. (1932) A S. African Gov., Import and Export Control Bd., Central Advisory Com., chmn.; Univ. of Witwatersrand, Faculty of Com., dean, prof.; TRA. B B.Com., 1922, M.Com., 1925, Univ. of Durham, England; D.Sc.(Econ.), 1941, Univ. of the Witwatersrand. C The iron and steel industry in South Africa (Witwatersrand Univ. Press, Johannesburg, and Lund Humphries, England, 1940). D 7, 11, 10. F "The Reserve Bank of the Union of South Africa," Econ. Jour., Dec., 1925; "The banking system of South Africa" (with E. H. D. Arndt), in Foreign banking systems (Holt, 1929); "Fundamentals of economic policy in the Union," S. African Jour. of Econ., Mar., 1942.

RICHARDS, Leo J., 1420 12th St., N., Arlington, Va. (1928) **A Fed. Pub. Hous. Agency, head fiscal accountant, A.** B B.S., 1921, Columbia; M.S., 1931, California; grad. work, American. D 10, 14, 4. E Executive Order 8512.

RICHES, Edward John, Int. Labor Office, 3480 University St., Montreal, Canada. (1942) A Int. Labor Office, Econ. and Statis. Sec., acting chief, R. B B.A., 1927, M.A. (1st Class hons.), 1928, Univ. of New Zealand. D 17, 8, 6. E International aspects of postwar reconstruction; wage regulation in New Zealand; wartime and postwar wage policy. F "The restoration of compulsory arbitration in New Zealand," Int. Labor Rev., Dec., 1936; "Conflicts of principle in wage regulation in New Zealand," Economica, Aug., 1938; co-author, Studies in war economics (Int. Labor Office, 1941).

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Com. and Admin., Columbus, Ohio. (1925) A Ohio State Univ., asst. prof., T. B A.B., 1922, West Virginia; M.A., 1926, Ph.D., 1934, Columbia. C Investment policy of trust institutions (Business Pub. Co., 1934). D 9, 14, 7. E Investments; personal finance. F "Trust investments: their extent and some related economic problems," Law and Contemp. Prob., 1938.

RIEFLER, Winfield William, Inst. for Advanced Study, Princeton, N.J. (1937) A Inst. for Advanced Study, R. B A.B., 1921, Amherst; Ph.D., 1927, Brookings. C Money rates and money markets in the United States (Harper, 1930). D 8, 7, 5. E Financial research program (Nat. Bur. of Econ. Res.) G WS.

RIEGEL, John Wallace, Univ. of Michigan, 103 Tappan Hall, Ann Arbor, Mich. (1936) A Univ. of Michigan, prof., TR. B B.S., 1917, M.A., 1922, Pennsylvania; Ph.D., 1925, Harvard. D 17, 11. F Wage determination (1937), Salary determination (1940), Management, labor, and technological change (1942) (Univ. of Michigan Press). G S.

RIEGEL, Robert, Univ. of Buffalo, Buffalo, N.Y. (1918) A Univ. of Buffalo, prof., TR. B B.S., 1910, M.A., 1912, Ph.D., 1917, Pennsylvania. C Fire underwriters associations (Chronicle Co., N.Y., 1917). D 4, 9, 18. F Elements of business statistics (Appleton-Century, rev. 1927); Insurance principles and practices (with H. J. Loman) (Prentice-Hall, 1929); Merchant vessels (Appleton-Century, 1921). G S.

RIGGLEMAN, John Randolph, 30 Drummond Ave., Chevy Chase, Md. (1923) A U. S. Dept. of the Interior, Gen. Land Office, Planning, Use, and Protection Br., chief, A. B A.B., 1918, Cornell Col.; M.B.A., 1920, Harvard; Ph.D., 1934, Johns Hopkins. C Economic fluctuations in building activity. D 1, 12, 4. F Graphic methods for presenting business statistics (McGraw-Hill, rev. 1936); Business statistics (McGraw-Hill, rev. 1938); "Building cycles in the United States," Jour. of Amer. Statis. Asso., June, 1933. G WS.

RILEY, Donald Crockett, Valley View Dr., R.F.D. 3, Alexandria, Va. (1928) A U. S. Bur. of the Budget, prin. econ., R. B B.S., 1927, Wooster; M.A., 1928, Princeton. D 8, 10, 4.

RILEY, Hersey E., 2248 N. Quebec St., Arlington, Va. (1934) A U. S. Bur. of Labor Statis., sr. econ., R. B A.B., 1931, Kansas; grad. work, 1931-33, Chicago. D 17, 4, 6. E Changes in labor costs in localities under rent control. F "Hourly earnings in the knit goods industry," Monthly Labor Rev.; "Hourly earnings in the converted paper products industry," Monthly Labor Rev., May, 1941; Earnings and hours in the hat industries (U. S. Bur. of Labor Statis. Bul., 1939). G S.

RILEY, Roderick Hamilton, 5609 Madison St., Bethesda, Md. (1932) **A OPA, asst. dir. of res., RA.** B B.A., 1930, M.A., 1932, Wisconsin. D 10, 11, 6.

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ROBB, T(homas) Bruce, Fed. Res. Bank of Kansas City, Kansas City, Mo. (1921) A Fed. Res. Bank of Kansas City, Dept. of Res. and Statis., mgr., RA. B B.A., 1912, Park; M.A., 1914, Ph.D., 1919, Yale. C The guaranty of bank deposits (Houghton Mifflin, 1921). D 5, 9, 7. G W.

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ROBBINS, Edwin Clyde, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1912) A Harvard Univ., prof. of ind. manage., T. B Ph.B., 1910, Iowa; M.A., 1912, Ph.D., 1914, Columbia. C The railway conductors (Columbia Univ., 1914). D 17, 18. F Introduction to industrial management (with F. E. Folts) (McGraw-Hill, 1932); "A primer of collective bargaining," Railway Clerk, July, 1939. G W.

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SAPOSS, David Joseph, 1928 Belmont Rd., N.W., Washington, D.C. (1928) A Co-ordinator of Inter-American Affairs, head soc. econ., R. B Student, Wisconsin, Columbia. D 17, 20, 18. F History of labor in the United States (Carnegie Inst., 1918); Collective bargaining today and tomorrow (Harper, 1937); The labor movement of postwar France (Columbia Univ. and Rockefeller Found., 1931). G WS.

SARGENT, Noel, 14 W. 49th St., New York City. (1924)

SARNOFF, Milton M., 1342 Union St., Brooklyn, N.Y. (1941) A New York Univ., student. B B.S., 1936, New York. D 1, 5, 19.

SAROSI, Oliver, 15 Maple St., Oneonta, N.Y. (1940) A Hartwick Col., asso. prof., T. B B.C.S., 1928, New York; Diploma in Polit. Econ., Dr. of Polit. Econ., 1936, Royal Hungarian Univ., Budapest. C Trend and significance of the American labor movement. D 7, 9, 17. F Labor movement in the United States (mono., Our Century, Budapest, Oct., 1936).

SASULY, Max, Soc. Sec. Bd., Washington, D.C. (1938)

SAUCERMAN, Robert Charles, 1003 13th Ave., Monroe, Wis. (1941) A Student. B Ph.B., 1939, Wisconsin. D 3, 10, 15.

SAULNIER, Raymond Joseph, 106 Morningside Dr., New York City. (1936) A Barnard Col., Columbia Univ., asst. prof.; Nat. Bur. of Econ. Res., res. staff. B B.S., 1929, Middlebury Col.; M.A., 1931, Tufts Col.; Ph.D., 1937, Columbia. C Con-

temporary monetary theory (Columbia Univ. Press, 1938). D 7, 9, 5. E Contemporary relation between business borrowers and financing institutions (Nat. Bur. of Econ. Res.). F Industrial banking and their credit practices (Nat. Bur. of Econ. Res., 1940).

SAUNDERS, Stanley Alexander, 143 Spadina Rd., Toronto, Canada. (1931)

SAUNDERS, William B., 205 P St., S.W., Washington, D.C. (1942)

SAURINO, Benedict, Sun Oil Co., 1608 Walnut St., Philadelphia, Pa. (1942) A Sun Oil Co., res. econ., B. D 13, 4, 11. E Transportation for petroleum and its products to East Coast district; tanker building program.

SAUVAIN, Harry Charles, 505 N. Park Ave., Bloomington, Ind. (1934)

SAWWAF, Husni A., Amer. Univ. of Beirut, Beirut, Lebanon. (1938)

SAWYER, Robert Lee, 301 Hatton St., Jackson, Tenn. (1941)

SAXTON, Pierre William, 195 Broadway, New York City. (1918)

SCHAFER, Robert, OPA, Textile Sec., Washington, D.C. (1941) A **OPA, Wool Unit, econ., A;** R. B A.B., 1933, Harvard. D 11, 10, 4. F Seasonal influences affecting the price level of wheat in the United States (Jan., 1938); Movement of cotton prices in years following large crops (1937); The Chicago-Minneapolis wheat spread (May, 1941).

SCHAFFNER, Joseph Halle, Wild Rose Shores, R.F.D., Annapolis, Md. (1924)

SCHAPER, William August, 808 S. Flood, Norman, Okla. (1926) A Univ. of Oklahoma, retired. B B.Litt., 1895, Wisconsin; M.A., 1898, Ph.D., 1901, Columbia. C Sectionalism and representation in South Carolina (Amer. Hist. Asso. Report for 1900). D 6, 10, 9. F "Place of the public library in the administration of a city," Nat. Municipal Rev., Vol. III, No. IV. G WSIE.

SCHATTSCHNEIDER, Sylvester, Prudential Ins. Co., Newark, N.J. (1942)

SCHEINMAN, Daniel, 89-11 63rd Dr., Forest Hills West, L.I., N.Y. (1941) A R. H. Macy and Co., R. B A.B., 1933, Wisconsin. D 6, 18, 1. E Allocation of revenues from central to local governments; central versus local responsibility for unemployment relief (doctoral dissertation, Chicago). F Contributor, State-local fiscal relations in Illinois (Univ. of Chicago Press, 1941).

SCHENKEL, Arthur, 1322 41st St., Brooklyn, N.Y. (1941) A **U. S. A. Air Force, pvt.;** Gen. Elec. Co., TB. B A.B., 1941, Brooklyn. D 1, 4, 9. E History of economic theory.

SCHICKELE, Rainer Wolfgang, Iowa State Col., 207 Agric. Annex, Ames, Iowa. (1936) A Iowa State Col., asst. prof. of econ., T; U. S. Dept. of Agric., Bur. of Agric. Econ., agric. econ., R. B Ph.D., 1930, Col. of Agric., Berlin. C Weidewirtschaft in den trockengebieten der Erde: Probleme der Weltwirtschaft (Fischer, Jena, 1931). D 8, 15, 16. E War and postwar adjustments in agricultural policy; land tenure reforms; economic and social position of labor in the rural economy. F Economics of agricultural land use adjustment (Res. Bul. 209, 1937), Socioeconomic phases of soil conservation (Res. Bul. 241, 1938) (Iowa Agric. Exp. Sta.); "Effect of tenure systems on agricultural efficiency," Jour. of Farm Econ., Feb., 1941. G S.

SCHIFF, Erich, Brookings Inst., 722 Jackson Pl., N.W., Washington, D.C. (1940)

SCHINDLER, James Schwartz, Univ. of Michigan, Econ. Bldg., Room 8, Ann Arbor, Mich. (1941) A **Univ. of Michigan, teaching fellow.** B B.S., 1939, Illinois; M.B.A., 1942, Michigan; M.A., 1942, Univ. of Washington; C.P.A., 1940, Washington. D 4, 9, 1.

SCHLAGENHAUF, Milton John, 360 Huntington Ave., Boston, Mass. (1922) A Northeastern Univ., dir. of admissions, A. B B.A., 1918, Washington Univ.; B.D., 1919, Garrett Biblical Inst.; M.A., 1920, Northwestern. D 17, 1, 8. G E.

SCHLATTER, William Joseph, Yale Univ., 402 Sheffield Hall, New Haven, Conn. (1940) A Yale Univ., instr. B A.M., 1934, Illinois. D 4, 9, 1. E Quasi-reorganization of corporate capital structure.

SCHLINK, Frederick John, Washington, N.J. (1931) A Consumers' Res., tech. dir., RA. B B.S., in M.E., 1912, M.E., 1917, Illinois. D 19, 12, 10. E Economics and the consumer in wartime. F Editorials and articles on economic-technical subject matter (Consumers' Res. Buls., 1929 to date); Eat, drink and be wary (Covici-Friede, 1936); Your money's worth (Macmillan, 1927). G W.

SCHMELZLE, William Kress, Univ. of California, Econ. Dept., Berkeley, Calif. (1942) A **Univ. of California and U. S. Office of Educa., E.S.M.D.T. Program, San Francisco Bay Area Office, Educa. Sup. of Ind. Manage. Program, A;** Univ. of California, lecturer, TB. B B.S., 1930, Juniata; M.B.A., 1932, Pennsylvania. D 6, 11, 1. E Tax factor in the localization of west coast industry (doctoral dissertation, California).

SCHMIDT, Andrew Becker, Univ. of Arizona, Tucson, Ariz. (1939) A Univ. of Arizona, prof. of econ., T. B B.A., 1912, M.A., 1913, Oberlin. D 1.

SCHMIDT, Carl Theodore, c/o Mr. L. P. Schmidt, Purity Stores, Ltd., Francisco and Kearney Sts., San Francisco, Calif. (1931) A **U. S. Army, inf. major;** Columbia Univ., lecturer in econ., T. B B.S., 1928, Ph.D., 1931, California. C German business cycles, 1924-33 (Nat. Bur. of Econ. Res., 1934). D 10, 15, 3. F The plough and the sword (Columbia Univ. Press, 1938); The corporate state in action (1939), American farmers in the world crisis (1941) (Oxford Univ. Press). G S.

SCHMIDT, Edward Benjamin, 901 S. 15th, Lincoln, Neb. (1934) A Univ. of Nebraska, asst. prof. of econ., T. B A.B., 1922, Nebraska Wesleyan; M.A., 1932, Ph.D., 1941, Nebraska. C An appraisal of the Nebraska tax system (Univ. of Nebraska, 1941). D 6, 1, 4. E Farm lands in city school districts. F County government: relations of size of counties to cost of county government in Nebraska (1934), Homestead tax exemption (1936) (Univ. of Nebraska).

SCHMIDT, Emerson P., 1941 E. River Ter., Minneapolis, Minn. (1934) A Univ. of Minnesota, asso. prof. of econ., TR. B B.A., 1923, North Central; M.A., 1924, Toronto; Ph.D., 1935, Wisconsin. C Industrial relations in urban transportation (Univ. of Minnesota Press, 1937). D 10, 17, 14. E Employment regularization; electricity supply survey for Province of Manitoba. F Man and society (Prentice-Hall, 1937); Public utility economics (1941), Leading judicial interpretations in public utility regulation (1941) (John S. Swift). G SE.

SCHMIDT, Orvis Adrian, 418 Cummings Lane, Chevy Chase, Md. (1940)

SCHMIDT, Raymond Robert H., 1628 N. Franklin Pl., Milwaukee, Wis. (1942) A South Division High School, T. B B.E., 1936, Milwaukee State Teachers Col.; M.A., 1941, Columbia. D 16, 19, 10.

SCHNEIDER, Robert J., Rensselaer Poly. Inst., Troy, N.Y. (1930) A Rensselaer Poly. Inst., asso. prof., T. B B.B.A., 1929, M.B.A., 1930, Univ. of Washington. D 12, 14, 11. E Effects of sound upon production; wealth and income, N.Y. (doctoral dissertation). F Joint author, Business economics (mimeo., 1942).

SCHOLZ, Karl W. H., Univ. of Pennsylvania, Logan Hall, Philadelphia, Pa. (1921) A Univ. of Pennsylvania, prof. of econ., TR. B Ph.D., 1918, Pennsylvania. C The art of prose translation. D 3, 1, 8. E Relationship between gross rent of residential properties and local property taxes in Philadelphia. F Co-author, Economic problems of modern life (McGraw-Hill, 3rd ed., 1937); The science and practice of urban land value (Mfrs. Appraisal Co., Philadelphia, 1926); Pennsylvania assessor's manual (Univ. of Pennsylvania, Inst. of Local and State Gov., 1939). G WSE.

SCHRAG, William A., 7522 Walnut Lane, Philadelphia, Pa. (1940) A Temple Univ., Bus. Admin. Dept., head, T. B B.S.C., 1929, Temple; M.B.A., 1931, Harvard. D 7, 9, 4. E Financial analysis of the American rayon industry (doctoral dissertation).

SCHROLL, (Sister) M. Alfred, Mt. St. Scholastica Col., Atchison, Kan. (1940)

SCHULLER, George J., 1417 N St., Washington, D.C. (1939) **A OPA sr. econ., RA. B** B.S., 1931, M.A., 1934, New York. **D** 11, 5, 3. **E** Bargaining power, prices, and incomes (doctoral dissertation).

SCHULTZ, Arch D., 17 S. High St., Columbus, Ohio. (1940) **A** Ohio Chamber of Com., Dept. of Res., dir., RA. **B** A.B., 1921, Albion; M.A., 1926, Ph.D., 1930, Michigan. **C** Railroad abandonments. **D** 6, 4, 10. **E** Surveys of state and local governmental units. **F** The fiscal situation in Ohio (Ohio Chamber of Com., 1935).

SCHULTZ, Robert, Drew Univ., Brothers Col., Madison, N.J. (1932) **A** Brothers Col., prof. of econ., T. **B** B.A., 1923, Haverford M.A., 1927, Ph.D., 1934, Pennsylvania. **C** Depreciation and the American railroads. **D** 14, 17, 1. **E** Religion and economic life. **G** S.

SCHULTZ, Theodore W., Iowa State Col., Ames, Iowa. (1940) **A** Iowa State Col., Dept. of Econ. and Soc., head, prof., TRA. **B** B.S., 1928, South Dakota State Col.; M.S., 1928, Ph.D., 1930, Wisconsin. **C** Economic effect of tariff on feed grains (Univ. of Wisconsin Tariff Studies). **D** 15, 8, 4. **E** Price and production policies in agriculture. **F** "Economic effects of agricultural programs," A.E.R., Feb., 1941; "Capital rationing and farm tenure reform," J.P.E., 1940; Training and recruiting personnel in rural social studies (Amer. Coun. on Educa., 1940). **G** WSE.

SCHUMACHER, Arnold Charles, 2511 14th St., N.W., Washington, D.C. (1941) **A Bur. of For. and Dom. Com., asst. econ. anal. B** B.S., 1939, M.A., 1940, Indiana. **D** 1, 5, 6. **E** Relationship between the interest theories of welfare economics and those of Keynes's general theory (doctoral dissertation).

SCHUMANN, John Joseph, Jr., 1775 Broadway, New York City. (1942) **A** Gen. Motors Acceptance Corp., pres., B. **D** 9, 3, 17. **G** W.

SCHUMPETER, Elizabeth Boody (Mrs. Joseph A.), Taconic, Conn. (1927)

SCHUMPETER, Joseph Alois, 7 Acacia St., Cambridge, Mass. (1929) **A** Harvard Univ., prof., TR. **B** Dr. (law and polit. sci.), 1906, Vienna; Ph.D. (Hon.), 1913, Columbia, 1936, Sofia. **D** 1, 5, 4. **E** Theoretical apparatus of economics. **F** Theory of economic development (Harvard Press, 1911); Business cycles (McGraw-Hill, 1939). **G** WS.

SCHWARTZ, David, 1851 Columbia Rd., N.W., Washington, D.C. (1941) **A** WPB, asso. econ., R. **B** A.B., 1938, Columbia; M.A., 1941, California. **D** 2, 11, 4. **E** Secular change in American business cycles (doctoral dissertation).

SCHWEITZER, Arthur, Univ. of Wyoming, Dept. of Econ., Laramie, Wyo. (1938) **A** Univ. of Wyoming, asst. prof., T. **B** Dr. rer. pol., 1936, Univ. of Basle, Switzerland. **C** Spiethoff's Konjunkturlehre (Helbing and Lichtenhahn, Basel, 1938). **D** 5, 3, 10. **E** Book on war economics; paper on Fascist monopoly of foreign trade. **F** "Fascist monopoly of power," Jour. of Soc. Phil., July, 1941; Spiethoff's business cycle theory (Apr., 1941), The foundation of pure economics (July, 1942) (Wyoming Univ.). **G** S.

SCHWENGER, Robert B., U.S. Dept. of Agric., Washington, D.C. (1935) **A** Office of For. Agric. Rela., for. trade adviser. **B** B.A., 1928, Wisconsin. **D** 8, 5, 1.

SCHWENNING, Gustav Theodor, 725 S. 21st St., Arlington, Va. (1924) **A U. S. Office of Educa., E.S.M.D.T., sr. spec. in ind. manage., A**; Univ. of North Carolina, prof. of bus. admin. T; Southern Econ. Jour., managing ed. **B** B.H., 1920, Springfield; M.A., 1921, Ph.D., 1925, Clark Univ., Worcester. **C** History of the industrial work of the Young Men's Christian Association (Clark Univ., Abstracts of Theses I). **D** 17, 11. **E** Dismissal legislation and compensation. **F** The science of production organization (with E. H. Anderson) (Wiley, 1938); editor, Management problems (Univ. of North Carolina Press, 1930); "Dismissal legislation," A.E.R., June, 1932. **G** W.

SCOTT, DR, Univ. of Missouri, Columbia, Mo. (1923)

SCOTT, Karl M., 603 Park, Fayetteville, Ark. (1942) **A** Univ. of Arkansas, Col. of Bus. Admin., dean. **B** B.A., 1925, Arkansas; M.S., 1926, Iowa State Col.; Ph.D., 1930, Illinois. **C** The coal industry and the miners' unions in the United States since the World War (Illinois Studies). **D** 17, 18, 10. **E** Labor supply, recruitment, and training policies in U.S.

SCOTT, Reginald Hood, Univ. of Pittsburgh, Pittsburgh, Pa. (1933)

SCOTT, William Amasa, 540 N. Interlachen Ave., Winter Park, Fla. (1888)

SCOVILL, Hiram Thompson, 217 Commerce Bldg., Urbana, Ill. (1914) **A** Univ. of Illinois, Dept. of Bus. Org. and Opera., head, prof. of acctg., TA. **B** A.B., 1908, Illinois; C.P.A., 1918, Illinois. **D** 4, 11, 6. **F** Accounting fundamentals (Heath, 1940); Farm accounting (Appleton, 1918); editor, Wiley Accounting Series (1924, ff.). **G** WSE.

SCRIMSHAW, Stewart, 7410 Watson Ave., Wauwatosa, Wis. (1913)

SCROGGS, William Oscar, Louisiana State Univ., Baton Rouge, La. (1910) **A** Louisiana State Univ., Grad. School, dean, RA. **B** B.S., 1899, M.S., 1900, Alabama Poly. Inst.; A.M., 1905, Ph.D., 1911, Harvard. **C** Financial history of Alabama. **D** 8, 2, 6. **F** Filibusters and financiers (Macmillan, 1916); A century of banking progress (Doubleday, 1924); United States in world affairs (with Walter Lippmann and Whitney H. Shepardson) (Harper, 9 vols., 1932-41). **G** WS.

SEABERG, Hugo, Raton, N.M. (1912) **D** 9, 7, 5.

SEAL, Harvey C., Western Illinois State Teachers Col., Macomb, Ill. (1937)

SEARLES, Clair K., Univ. of Toledo, Toledo, Ohio. (1928) **A** Univ. of Toledo, Col. of Bus. Admin., dean, TRA. **B** B.A., 1913, M.A., 1921, Ph.D., 1923, Michigan. **C** Administration of schools of Washtenaw County according to community plan. **D** 10, 8, 6. **G** S.

SECRIST, Horace, Northwestern Univ., Wieboldt Hall, Chicago, Ill. (1909)

SEDGWICK, Robert C., Syracuse Univ., Dept. of Econ., Syracuse, N.Y. (1936)

SEELYE, Alfred Lee, Univ. of Kansas, School of Bus., Lawrence, Kan. (1942) **A** Univ. of Kansas, asst. prof. of market., T. **B** B.S., 1937, M.S., 1939, Syracuse. **D** 12, 11, 10. **E** Chain store trends, 1929-41; economic effects of fair trade legislation. **F** "Drug prices in cities with and without a fair trade law," Jour. of Market., July, 1941.

SEGAL, M(andal) Robert, 213-C Holden Green, Cambridge, Mass. (1938) **A WPB, priority anal. exam. and lawyer, A. B** A.B., 1936, Amherst; LL.B., 1942, Harvard. **D** 17, 10, 11. **E** Company unions and the Wagner Act (doctoral dissertation). **F** The demand for steel by the railroad, container, and construction industries (1941), TNEC papers (1941) (U. S. Steel Corp.).

SEGAL, Melvin James, Minimum Wage Bd., P.O. Box 3910, Santurce, Puerto Rico. (1934) **A Minimum Wage Bd., chief econ., R**; Southern Illinois Normal Univ., asst. prof. of econ., T. **B** A.B., 1932, Amherst; M.A., 1935, Ph.D., 1938, Illinois. **C** The Norris-LaGuardia Act and the courts (Amer. Coun. on Pub. Affairs, 1941). **D** 17, 1, 18. **E** Sugar industry in P.R. with special reference to agricultural laborer; Minimum Wage Act of P.R.

SEGAL, Sol Arthur, 2515 14th St., N.E., Washington, D.C. (1941) **A OPA, sr. econ. B** B.S. in Econ., 1934, Pennsylvania; M.A., 1936, Princeton. **D** 11, 10, 5.

SEIBERT, Joseph C., Emory University, Ga. (1941) **A** Emory Univ., asst. prof., T. **B** B.S., 1932, Miami Univ.; M.B.A., 1933, Ph.D., 1941, Northwestern. **C** Price behavior and industrial activity. **D** 5, 9, 12. **E** Business index of Atlanta.

SEIDL, Julius C. G., 266 W. 23rd St., New York City. (1940) **A Ranger Aircraft Engines, dir. of training, A**; Manhattan Col., Dept. of Ind. Engr., head, prof., TA. **B** I.E., 1928, New York; M.A., 1932, Ph.D., 1937, Fordham. **C** The effect of bilingualism on intelligence. **D** 17, 13, 4. **E** Cost of hiring and training during expansion. **G** E.

SEIDLER, Gustav, 1927 S. Arlington Ridge Rd., Arlington, Va. (1935) **A** U. S. Dept. of Justice,

Antitrust Div., econ. expert, R. B Ph. D., 1923, Univ. of Vienna. C Changes in economic structure of Austria caused by World War, 1914-18 (Vienna, 1923). D 11, 5, 10. E Changes and trends in structure and control of U. S. industry during prewar and present war period. F Critical methodology of systems of classical economics (G. Fisher, 1926); Control of geographic price relations (NRA, 1936); collaborator, Patterns of resource use (Nat. Res. Com., 1938). G S.

SEIDMAN, Joel, 713 Public Square Bldg., Cleveland, Ohio. (1939) A NLRB, field exam., A. B A.B., 1926, Ph.D., 1932, Johns Hopkins. C The yellow dog contract (Johns Hopkins Press, 1932). D 17, 18, 19. E Responsibility of trade unions. F The needle trades (Farrar and Rinehart, 1942); "The state of the unions," Survey Graphic, Nov., 1941.

SELBERT, (Mrs.) Frida Foerster, 10525 Carnegie Ave., Cleveland, Ohio. (1937)

SELEKMAN, Ben Morris, Asso. Jewish Philanthropies, 24 Province St., Boston, Mass. (1926)

SELIGMAN, Ben B., 35 Crown St., Brooklyn, N.Y. (1941) A Bd. of Educa., N.Y.C., High School, T. B A.B., 1934, Brooklyn Col. D 1, 16.

SELKO, Daniel Theodore, 722 Jackson Pl., N.W., Washington, D.C. (1929) **A U. S. Army Air Force, 1st lieut., R;** Brookings Inst., res. asso., R. B A.B., 1928, Wabash; Ph.D., 1936, Yale. C Town-administered special districts and the control of local finance in New York (J. B. Lyon, Albany, 1936). D 6, 10, 4. E Federal sales tax (with C. O. Hardy). F The federal financial system (Brookings, 1940); The administration of federal finances (Brookings, 1937). G S.

SELTZER, George, 5635 Cottage Grove Ave., Chicago, Ill. (1941) **A WPB, asso. econ., RA. B** A.B., 1940, Chicago. D 17, 6, 18.

SELTZER, Lawrence Howard, 2025 Glynn Ct., Detroit, Mich. (1921) A Wayne Univ., prof. of econ., TR; U. S. Treas. Dept., consulting expert, R. B A.B., 1920, A.M., 1921, Ph.D., 1925, Michigan. C Capital in the automobile industry (pub. as A financial history of the American automobile industry, Houghton Mifflin, 1928). D 7, 6, 1. E Treasury financing; war finance; taxation. F "The mobility of capital," Q.J.E., May, 1932; "The problem of our excess banking reserves," Jour. of Amer. Statis. Asso., Mar., 1940; "Speeding the elimination of tax-exempt securities," Proceedings, Nat. Tax Asso., Oct., 1941. G SE.

SERRANO, Enrique Eudaldo, Calle 8 No. 456, Vista Alegre, Santiago de Cuba, Cuba. (1942) A R. B Dr. en Derecho Civil, Dr. en Ciencias Politicas, Sociales, y Economicas, 1939, Havana Univ. C Las crisis economicas. D 1, 6, 7. E Economic history of Cuba.

SESSLER, Matt J., 19 Mariners Pl., Plainfield, N.J. (1940)

SEVERSON, Lewis Everett, Beloit Col., Beloit, Wis. (1929) A Beloit Col., Dept. of Econ., head, prof., TRA. B B.A., 1919, Kansas; M.A., 1923, Stanford; Ph.D., 1930, Chicago. C History of the Illinois Central Railroad (abstract, Univ. of Chicago, 1930). D 7, 9, 1. E History of Ill. Cent. R.R.; evolution of theory of money and banking. G S.

SEYBOLD, John W., Swarthmore Col., Swarthmore, Pa. (1941) **A Swarthmore Col., instr., T. B** A.B., 1936, Swarthmore; M.A., 1941, Pennsylvania. D 1, 3, 7. E Role of rate of interest in a socialist community (doctoral dissertation).

SHAFER, Joseph Ernest, Bowling Green State Univ., Bowling Green, Ohio. (1929)

SHAFFNER, Felix Ira, New York Univ., School of Com., Accts., and Fin., Washington Sq., New York City. (1941)

SHAHAN, Ewing P., Univ. of Miami, Coral Gables, Fla. (1941)

SHAPIRO, Solomon, 1010 25th St., N.W., Washington, D.C. (1939) A U. S. Dept. of Labor, Postwar Div., asso. econ., R. B B.B.A., 1932, City of New York; M.A., 1941, American. D 9, 7, 6. E Idle money.

SHARFMAN, I(saiah) Leo, Univ. of Michigan, Ann Arbor, Mich. (1914) **A NWLB, asso. member;** Univ. of Michigan, Dept. of Econ., chmn., prof. B A.B., 1907, LL.B., 1910, Harvard. D 10, 14, 17. E Public control of labor relations in railroad industry. F The American railroad problem (Century, 1921); The Interstate Commerce Commission (5 vols., Commonwealth Fund, 1931-37). G WSE.

SHARP, Luther, Great Nat. Life Bldg., Dallas, Tex. (1941)

SHASKAN, George Francis, Jr., 221 N. George Mason Dr., Arlington, Va. (1939) **A OPA, econ., R.** B A.B., 1939, Princeton. D 10, 19, 11. E Theory and practice of selective price control.

SHATTUCK, Leroy A., Jr., 155 Bay St., Springfield, Mass. (1942)

SHAULIS, Lloyd L., Tufts College, Mass. (1931)

SHAW, Arch Wilkinson, 50 Locust Rd., Winnetka, Ill. (1910) A Shaw and Co., pres., B. B A.M. (Hon.), 1914, Olivet; LL.D., 1927, Northwestern. D 5. F Some problems in market distribution (1912), An approach to business problems (1916) (Harvard Univ. Press). G W.

SHAW, Edward S., Dept. of Econ., Stanford University, Calif. (1942) A Stanford Univ., dept. head, prof., TRA. B A.B., 1929, M.A., 1930, Ph.D., 1936, Stanford. D 7, 5, 1. E Evolution of central banking mechanisms and policies, 1929-40. F "False issues in interest theory controversy," J.P.E., Aug., 1938; "Elements of a theory of inventory," J.P.E., Aug., 1940. G S.

SHAW, Ernest Ray, 20 Exchange Pl., New York City. (1922) A Lionel D. Edie and Co., treas., A. B A.B., 1922, Cornell; A.B., 1924, Illinois; Ph.D., 1930, Chicago. C The investment and secondary reserve policy of commercial banks. D 9, 5, 7.

SHAW, Everett Raymond, Rochester Junior Col., Rochester, Minn. (1942) A Rochester Junior Col., T. B A.B., 1932, M.A., 1933, Michigan. D 1, 11, 7. E Philosophical foundations of economic theory of value (doctoral dissertation, Illinois). F "Humanism and the philosophy of economics," New Humanist, Sept., 1935.

SHAW, Fayette Baldwin, De Paul Univ., 64 E. Lake St., Room 1400, Chicago, Ill. (1940)

SHAW, Harry Farran Range, Hanover, N. H. (1925) A Dartmouth Col., prof., T. B A.B., 1921, M.A., 1922, Toronto. D 2, 3. E General economic history. G S.

SHAW, Kim Wei, Standard Import and Export Co. of China, 48 W. 48th St., New York City, (1942)

SHAW, William Howard, 1618 21st St., N.W., Washington, D.C. (1940) A U. S. Dept. of Com., sr. econ. anal., R. B A.B., 1930, A.M., 1931, Columbia. D 1, 3, 5. E Flow of goods and services, 1929 to date; commodity output since 1869. F Finished commodities since 1879 (mono., Nat. Bur. of Econ. Res., 1941).

SHEA, J. Whitney, Houghton Col., Houghton, N.Y. (1938) A Houghton Col., asso. prof., T. B A.B., 1933, Houghton; A.M., 1936, Columbia. D 17.

SHEA, John L., 2001 Main St., Buffalo, N.Y. (1940) A Canisius Col., prof. of econ., T. B A.B., 1927, M.A., 1928, Boston Col.; B.Sc. (Econ.), 1939, London School of Econ. D 3, 10, 1. E High school textbook.

SHEARER, Warren Wright, Wabash Col., Crawfordsville, Ind. (1940) A Wabash Col., asst. prof. B A.B., 1936, Wabash; A.M., 1941, Wisconsin. D 1, 5, 17.

SHEARMAN, Henry P., Miami Univ., Oxford, Ohio. (1933)

SHEEHAN, John Harold, Univ. of Notre Dame, Notre Dame, Ind. (1939) A Univ. of Notre Dame, Dept. of Econ., head, asso. prof., TRA. B A.B., 1937, A.M., 1938, Notre Dame. D 1, 10, 3. F "War and economics," Rev. of Politics, Jan., 1942; "This age of fable," Rev. of Politics, Apr., 1942.

SHEFTEL, Harry Bernard, 220 Allison St., N.W., Washington, D.C. (1942) **A WPB, econ., R. B** A.B., 1927, Clark Univ., Worcester; grad. work, American. D 13, 17, 1. E Guarantee of income and employment as means to security; war construction.

SHELTON, Henry Wood, Box 48, La Jolla, Calif. (1916)

SHELTON, W(illiam) Arthur, 3211 Tennyson St.,

N.W., Washington, D.C. (1919) **A** U. S. Pub. Rds. Admin., F. W. Agency. **B** A.B., 1908, Georgia; AM., 1912, Chicago. **D** 4, 1, 14. **E** Methods of estimating highway traffic volume. **F** Lakes-to-Gulf deep waterway (Univ. of Chicago Press, 1912); articles in Proceedings, Highway Res. Bd., 1934, ff.

SHENEFIELD, Hale Thurel, 3136 Newark St., N.W., Washington, D.C. (1941) **A Joint War Produc. Com., acting exec. secy., RA. B** A.B., 1924, A.M., 1928, Michigan. **D** 8, 10, 6. **E** British Empire war finance. **F** The fiscal situation in Florida (Brookings, 1941); Land value manual and Assessment manual (Dec., 1937).

SHEPARD, Earl Fenton, 2190 Saline Rd., Ann Arbor, Mich. (1940)

SHEPHERD, Geoffrey Seddon, 3425 Oakland St., Ames, Iowa. (1931) **A** Iowa State Col., Agric. Econ. Dept., asso. prof. **B** B.S.A., 1924, Saskatchewan; M.S., 1925, Iowa State Col.; Ph.D., 1932, Harvard. **C** Secular and annual movements in the price of corn. **D** 15, 11, 1. **E** Stabilizing supplies and prices of farm products; operations of Commodity Credit Corp. **F** Agricultural price analysis (Iowa State Col. Press, 1941); "Agricultural price control: the experience of the C.C.C.," Jour. of Farm Econ., Aug., 1942; Stabilizing corn and hog supplies and prices (U. S. Dept. of Agric., Bur. of Agric. Econ. Tech. Bul., July, 1942). **G** S.

SHEPHERD, Henry Longdon, 93 Elm St., Hartford, Conn. (1935) **A Trinity Col., visiting instr.,** T; Hewes, Prettyman, Awalt and Smiddy, lawyers, partner. **B** A.B., 1927, Texas Christian; M.A., 1929, Ph.D., 1932, Princeton. **C** Monetary experience of Belgium, 1914-36 (Princeton Univ. Press, 1936). **D** 10, 7, 1. **E** Textbook on monetary science. **F** Default and adjustment of Argentine foreign debt, 1890-1906 (1933), Balance of international payments of the United States, 1919-32 (1933) (U. S. Dept. of Com.).

SHEPPARD, Ernest James, 217 W. Lutz, West Lafayette, Ind. (1926) **A** Purdue Univ., asso. prof. of econ., T. **B** A.B., 1922, Colorado Col.; M.A., 1926, Illinois; Ph.D., 1939, Ohio State. **C** History of wholesaling of groceries in central Ohio. **D** 12, 19, 2. **G** S.

SHERMAN, John H., Webber Col. Lib., Babson Park, Fla. (1941)

SHERMAN, William Roderick, Hillsdale Col., Hillsdale, Mich. (1923) **A** Hillsdale Col., prof. of econ., T. **B** A.B., 1913, A.M., 1914, Ph.D., 1923, Clark Univ. **C** Diplomatic and commercial relations of the United States and Chile (R. Badger, 1926). **D** 8, 3, 12. **E** Economic problems of national defense and postwar reconstruction. **F** Outline of foreign trade and markets (privately pub., 1932-42). **G** S.

SHERRARD, Alfred, 2000 F St., N.W., Washington, D.C. (1942) **A WPB, sr. econ., R. B** S.B., 1937, Harvard; M.A., 1939, Columbia. **D** 1, 6, 11.

SHERRINGTON, Charles Ely Rose, Railway Research Service, 4 Cowley St., Westminster, London, S.W., England. (1923) **A** British Railways Res. Serv., secy. **B** B.A., 1921, M.A., 1925, Cambridge Univ. **D** 14, 16, 17. **E** Economic and technical research. **F** Economics of rail transport in Great Britain (Edward Arnold and Co., 2nd ed., 1937); One hundred years of inland transport (Duckworth and Co., 1934); "Results of British Railways Act of 1921," A.E.R., June, 1924.

§**SHIELDS, D(avid) Murray,** Irving Trust Co., 1 Wall St., New York City. (1925) **A** Irving Trust Co., econ. **B** B.B.A., 1925, Texas. **D** 7, 6, 5.

SHIELDS, Paul O., 1308 W. Jefferson, Kokomo, Ind. (1942)

SHIELDS, Thomas Keeler, 370 Orizaba Ave., Long Beach, Calif. (1940) **A** U. S. Dept. of Agric., A.M.A., asst. econ., R. **B** A.B., 1939, Redlands. **D** 15, 4, 12.

SHIRLEY, Robert Vernon, J-1 Prince Georges Apt., Hyattsville, Md. (1942)

SHIRVEN, Maynard N., U. S. Civ. Serv. Com., Res. Div., Washington, D.C. (1941)

SHISKIN, Julius, 4215 Russell Ave., Mt. Rainier, Md. (1937) **A WPB, sr. econ., R. B** A.B., 1935, A.M., 1936, Rutgers. **D** 5, 11, 12. **E** Relations between cyclical and seasonal fluctuations (doctoral dissertation). **F** Contributor, The output of manufacturing industries, 1899-1937, by Solomon Fabricant (Nat. Bur. of Econ. Res., 1940).

SHLAKMAN, Vera, Queens Col., Flushing, N.Y. (1938) **A** Queens Col., instr., T. **B** B.A., 1930, M.A., 1931, McGill; Ph.D., 1938, Columbia. **C** Economic history of a factory town: a study of Chicopee, Massachusetts (Smith Col. Studies in Hist., 1936). **D** 17, 2, 18. **E** Economic status of middle class; white collar and professional unions.

SHOEMAKER, James H., Brown Univ., Dept. of Econ., Providence, R.I. (1931)

SHORE, Mary Louise, 1960 Georgia Ave., Winston-Salem, N.C. (1937)

SHORTLIFFE, J(ames) Melbourne, Hamilton, N.Y. (1925) **A** Colgate Univ., Dept. of Econ., head, prof., TA. **B** A.B., 1910, A.M., 1911, Yale; grad. work, Harvard. **D** 10, 3, 1. **E** Effect of pressure groups on free private enterprise; revolt against competition. **G** S.

SHOUP, Carl Sumner, Columbia Univ., School of Bus., New York City. (1925) **A** Columbia Univ., asso. prof., TR. **B** A.B., 1924, Stanford; Ph.D., 1930, Columbia. **C** The sales tax in France (Columbia Univ. Press, 1930). **D** 6, 1, 7. **E** Amount and kind of taxation needed to help check inflation; concept of taxable income; some economic aspects of public finance. **F** Co-author, Facing the tax problem (Twentieth Cent. Fund, 1937), Report on revenue system of Cuba (Cuban gov., 1932); Federal finances in the coming decade (Columbia Univ. Press, 1941). **G** WS.

SHRIVER, George M., B. and O. R. R. Co., Baltimore Md. (1911)

SHULTZ, William J., 119 Lee Rd., Scarsdale, N.Y. (1940) **A U. S. Treas. Dept., Div. of Tax Res., consulting expert,** R; Col. of City of New York, asst. prof., T. **B** A.B., M.A., 1922, Ph.D., 1924, Columbia; LL.B., 1930, New York Law School. **C** The humane movement in the United States, 1910-22. **D** 6, 11, 7. **E** Textbook on mercantile credit; tax studies. **F** American public finance (Prentice-Hall, 3rd ed., 1942); Financial development of the United States (Prentice-Hall, 1938); Taxation of inheritance (Houghton Mifflin, 1926). **G** WS.

SHUMAN, Ronald Buswell, 3770 McKinley St., N.W., Washington, D.C. (1929) **A U. S. Army, ordnance, capt.;** Univ. of Oklahoma, prof. of bus. manage., TRA. **B** B.A., 1928, Hamline; M.A., 1929, Ph.D., 1934, Minnesota. **C** Some aspects of commerce in the Central Northwest (abstract, Univ. of Minnesota Press, 1934). **D** 11, 17, 16. **F** Survey of the petroleum industry (Univ. of Oklahoma Press, 1940).

SIDLO, Thomas L., 1956 Union Commerce Bldg., Cleveland, Ohio. (1922) **G** W.

SIEGEL, Irving Herbert, U. S. Bur. of Labor Statis., Productivity Div., Washington, D.C. (1941) **A** Bur. of Labor Statis., Produc. Div., asst. chief, R. **B** B.S., 1934, City of New York; M.A., 1935, New York. **D** 13, 4, 14. **E** Measurement of production and related concepts (doctoral dissertation, Columbia); capacity utilization in war industries; short-term measurement of production and productivity. **F** Co-author, Production, employment, and productivity in 59 manufacturing industries, 1919-36 (WPA, 1939); "Differences between index-number formulas," Jour. of Amer. Statis. Asso., Sept., Dec., 1941, June, 1942; co-author, "Increasing productivity and technological improvement in defense industries," Monthly Labor Rev., Jan., 1942.

SIEGEL, Seymour Nathaniel, 24 W. 55th St., New York City. (1940) **A U. S. Navy, Supply Corps, lieut. (j.g.), A;** Radio Station WNYC, program dir., A. **B** B.S., 1929, Pennsylvania; M.A., 1932, Columbia. **D** 4, 9, 8. **E** Authority of the FCC. **F** "Censorship on the air," 1939, "Law of communications," 1940, "Cities on the air," 1940, Air Law Rev.

SIENKIEWICZ, C. A., 925 Chestnut St., Philadelphia, Pa. (1936)

SIGSBEE, Ray Addison, 145 Ames Ave., Leonia, N.J. (1936)

SIKES, Earl Ray, 5 Whitaker Apts., Hanover.

N.H. (1925) **A** Dartmouth Col., prof. of econ. **B** A.B., 1915, Duke; M.A., 1918, Pennsylvania; Ph.D., 1926, Cornell. **C** State and federal corrupt practices legislation (Duke Univ. Press, 1928). **D** 3, 6, 17. **F** Contemporary economic systems (Holt, 1940); collaborator, Introduction to the social sciences (Appleton-Century, 1941). **G** SE.

SILBERLING, Norman John, 415 Chaucer St., Palo Alto, Calif. (1915) **A** Stanford Univ., prof. of bus. res. **B** A.B., 1914, A.M., 1915, Ph.D., 1919, Harvard. **C** History of theories of money and credit from Adam Smith to J. S. Mill. **D** 5, 7, 4. **E** Business dynamics and industrial analysis. **F** "British financial experience, 1790-1830," Oct., 1919, "British prices and cycles, 1779-1850," Oct. Sup., 1923, Rev. of Econ. Statis.; "Financial policy of Great Britain, 1793-1875," Q.J.E., Feb., 1924; "Graphic illustration of laws of price," A.E.R., Sept., 1924. **G** S.

SILVERSTEIN, Nathan L., Indiana Univ., School of Bus., Bloomington, Ind. (1928) **A** Indiana Univ., asso. prof. of fin., T. **B** B.A., 1928, California at Los Angeles; Ph.D., 1936, Wisconsin. **C** An appraisal of the devaluation policy of the United States. **D** 9, 7, 8. **F** "Effects of American devaluation on prices and export trade," A.E.R., June, 1937; contributor, Economic problems of war (Wiley, 1942).

SILVERSTRAND, Clarence F., 1900 F St., N.W., Apt. 913, Washington, D.C. (1937)

SIMMONS, Carroll Day, Univ. of Texas, Austin, Tex. (1927) **A** Univ. of Texas, A. **B** B.B.A., M.B.A., 1924, Texas; C.P.A., 1929, Texas. **D** 4, 9, 18. **G** S.

SIMMONS, Edward Christian, 4014 Lorcom Lane, Arlington, Va. (1936) **A OPA, Raw Materials Unit, Rubber Price Br., chief, A;** Univ. of Michigan, asst. prof. of econ., T. **B** A.B., 1931, A.M., 1932, Ph.D., 1936, Ohio State. **C** Banking and capital accumulation. **D** 7, 1, 6. **E** Theory of velocity of circulation of money. **F** "Treasury deposits and excess reserves," J.P.E., June, 1940; "Borrowing in the market by Federal Reserve Banks," A.E.R., June, 1938.

SIMON, S. Fanny, 1160 Cromwell Ave., New York City. (1935) **A** James Monroe High School, T. **B** A.B., 1923, Cornell; M.A., 1928, Columbia. **D** 2, 17, 3. **E** Labor and progressive movements in South America. **F** The labor movement in America (Norton, 1938).

SIMONDS, Rollin Head, 1321 Washington St., Evanston, Ill. (1941) **A** Maine Township Junior Col., instr., T. **B** B.S., 1935, M.A., 1936, Northwestern. **D** 10, 5, 1. **E** Power of government to control prices of services of factors of production.

SIMONS, Algie Martin, 2319 Sherman Ave., Evanston, Ill. (1925) **A** Amer. Medical Asso., Bur. of Medical Econ., asst. dir., R. **B** B.L., 1895, Wisconsin. **D** 1, 18, 10. **E** Medical economics. **F** Social forces in American history (Macmillan, 1907); Personnel relations in industry (Ronald Press, 1919); Way of health insurance (Univ. of Chicago Press, 1932). **G** W.

SIMONS, Henry Calvert, Univ. of Chicago, Chicago, Ill. (1929) **A** Univ. of Chicago, Dept. of Econ., Law School, asso. prof. of econ., T. **B** A.B., 1920, Michigan. **D** 6, 1, 7. **E** Problems of federal income-tax procedure; economic policy and the peace. **F** Personal income taxation (Univ. of Chicago Press, 1938); A positive program for laissez faire (Univ. of Chicago Press, 1934); "Rules vs. authorities in monetary policy," J.P.E., Feb., 1936. **G** S.

SIMONS, May Wood (Mrs. A. M.), 2319 Sherman Ave., Evanston, Ill. (1941) **B** Ph.B., 1905, Chicago; M.A., 1910, Ph.D., 1930, Northwestern. **C** Economic theory in relation to industrial conditions in the United States, 1783-1837. **D** 1, 2, 10. **E** Revision of doctoral dissertation. **F** Outline of civics (1926), Principles of economics (1942) (Amer. Tech. Soc.); Wisconsin citizen's handbook (League of Women Voters, 1920). **G** W.

SIMPSON, Floyd Robert, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1933) **A** Univ. of Minnesota, instr., T. **B** B.A., 1933, M.A., 1938, Minnesota. **D** 14, 10, 7. **E** Development of rates and service in the telephone industry (doctoral dissertation). **F** Leading judicial interpretations on public utility regulation (John S. Swift, 1940); "The handset telephone: a problem in public utility regulation," Nov., 1937, "Public utility refunds: a study in regulatory ineffectiveness," Feb., 1939, Jour. of Land and Pub. Util. Econ.

SIMPSON, Paul, 212 Belmont Ave., Alexandria, Va. (1940)

SIMS, Lewis Burrill, Bur. of the Census, Div. of State and Local Gov., Washington, D.C. (1938)

SINGER, Isidore Lyman, 1601 Dahill Rd., Brooklyn, N.Y. (1942) **A** New York Univ., School of Com., grad. asst., TR. **B** B.S. in Soc. Sci., 1940, City of New York; M.A., 1942, Brooklyn Col. **D** 18, 1, 17.

SINSABAUGH, Robert Washburn, 135 S. La Salle St., Chicago, Ill. (1932) **A** Woodruff, Hayes and Co., vice-pres., B. **B** Student, New York. **D** 7, 5, 9. **E** Banking and business forecast. **F** Fortune Mag. round table, Jan., 1940.

SKAUG, Arne, 80 Broad St., Room 1400, New York City. (1941) **A Royal Norwegian Gov., Disability Services, dir., RA;** Univ. of Wisconsin, asst. prof., TR. **B** Cand. oecon., 1930, Univ. of Oslo. **D** 1, 20, 17. **E** Location theory and internal migration; crisis policy of Scandinavian countries before the war. **F** Fluctuations in Norwegian migration (Int. Inst. of Intellectual Co-operation, Paris, mimeo., 1937).

SKINNER, Arnold L., U. S. Dept. of Com., Regional Bus. Consultant, 201 Fed. Office Bldg., Minneapolis, Minn. (1941)

SKINNER, Macy M., Univ. of Washington, 210 Commerce Hall, Seattle, Wash. (1921)

SLADE, Helen, 400 E. 57th St., New York City. (1923)

SLATER, J. E., Coverdale and Colpitts, 120 Wall St., New York City. (1925)

SLAVETINSKY, Frank M., Spring Hill, Mobile Co., Ala. (1939) **A** Spring Hill Col., prof.; Univ. of Alabama, Mobile Training Center, prof.; T. **B** Ph.D., 1934, Univ. of Vienna. **C** Is scientific management a cause of the depression? (Oskar Andreas, Vienna, 1934). **D** 17, 5, 10. **E** Self-government of industry. **F** Die sozialen Schadenswirkungen der falschen Rationalisierung (Schoenere Zukunft, Vienna, 1935). **G** S.

SLESINGER, Reuben Emanuel, 5419 Northumberland St., Pittsburgh, Pa. (1937) **A** Univ. of Pittsburgh, instr., T. **B** B.S., 1936, M.A., 1938, Ph.D., 1940, Pittsburgh. **C** Contributions of value theory to market price analysis. **D** 1, 5, 10.

SLICHTER, Sumner Huber, Morgan Hall, Soldiers Field, Boston, Mass. (1920) **A** Harvard Univ., prof., TR. **B** A.B., 1913, M.A., 1914, Wisconsin; Ph.D., 1918, Chicago. **C** The turnover of factory labor. **D** 17, 5, 1. **E** Economics of collective bargaining. **F** Modern economic society (Holt, 1931); Towards stability (Holt, 1934); Union policies and industrial management (Brookings, 1941). **G** WS.

SLOAN, Virginia Bishop, 2204 Hurley Ave., Ft. Worth, Tex. (1940) **A OPA, state retail price consultant, Tex., RA;** Ft. Worth Poly. High School, T. **B** B.A., 1925, M.A., 1928, Ph.D., 1941, Texas. **C** Social attitudes toward poverty and class distinctions implicit in classical economic literature. **D** 1, 17, 18.

SMALL, Joseph T., Paine Webber and Co., 25 Broad St., New York City. (1936)

SMART, L(ouis) Edwin, 410 King Ave., Columbus, Ohio. (1923)

SMELSER, David Paul, Procter and Gamble, Cincinnati, Ohio. (1925) **A** Procter and Gamble, Market Res. Dept., mgr., R. **B** A.B., 1912, New Windsor Col.; Ph.D., 1916, Johns Hopkins. **C** Unemployment and American trade unions (Johns Hopkins Press). **D** 12, 4, 17.

SMITH, Alfred G., Jr., R.F.D. 4, Lexington, S.C. (1941)

SMITH, Arthur Alvin, 3412 Bryn Mawr, Dallas, Tex. (1939) **A U. S. Bur. of Labor Statis., reg. price econ., RA;** Southern Methodist Univ., prof. of econ. **B** B.S., 1927, Missouri State Col.; M.A., 1929, Peabody Col.; Ph.D., 1933, Vanderbilt. **C** Guarantee of bank deposits. **D** 17, 6, 7. **F** "Guar-

antee of bank deposits," Soc. Sci., Summer, 1934; "Social and economic responsibilities of credit man," Credit World, Dec., 1941. **G** S.

SMITH, A(rthur) Howard, 235 Grand Ave., Rochester, N.Y. (1942) **A** Bausch and Lomb Optical Co., econ., B. **B** B.A., 1931, Rochester; M.B.A., 1933, Harvard. **D** 11, 4, 12.

SMITH, Bradford Bixby, 7 Heathcote Rd., Scarsdale, N.Y. (1924)

SMITH, Charles William, 1810 Park Ave., Halethorpe, Md. (1936) **A** U. S. Fed. Power Com., Bur. of Accts., Fin., and Rates, chief, A. **B** B.C.S., 1923, Southeastern; B.S., 1924, National; LL.B., 1932, Baltimore. **D** 14, 4, 6. **F** Practical accounting systems (privately pub., 1934). **G** W.

SMITH, Curry Elliott, New York Univ., Washington Sq., New York City. (1941)

SMITH, Dan Throop, Morgan Hall, Soldiers Field, Boston, Mass. (1928) **A** Harvard Univ., Grad. School of Bus. Admin., asso. prof., TR. **B** A.B., 1928, Stanford; Ph.D., 1934, Harvard. **C** Treasury operations and the money market. **D** 6, 7, 9. **E** Comparison of taxable and business income (Nat. Bur. of Econ. Res.); tax factors in business policies. **F** Deficits and depressions (Wiley, 1936); "Changes in federal finance, July, 1930-June, 1938," Rev. of Econ. Statis., Nov., 1938; "Tax uncertainties in corporate financing," Harvard Bus. Rev., Spring, 1942. **G** S.

SMITH, Earl Loran, 32 Cavanaugh Rd., Wellesley, Mass. (1939)

SMITH, Edward Louis, 676 Riverside Dr., New York City. (1925)

SMITH, Elliott Dunlap, 90 High St., New Haven, Conn. (1938) **A** Yale Univ., Dept. of Econ., chmn., prof., TA. **B** A.B., 1913, LL.B., 1916, Harvard; M.A. (Hon.), 1928, Yale. **D** 17, 11, 18. **F** Psychology for executives (Harper, rev. 1934); Technology and labor (Yale Univ. Press, 1939); co-author, Union management co-operation in the "stretch-out" (Yale Univ. Press, 1934). **G** WS.

SMITH, Elmer A., 135 E. 11th Pl., Chicago, Ill. (1937)

SMITH, Everett Grant, Univ. of Texas, Austin, Tex. (1933)

SMITH, Frank Percy, Univ. of Rochester, Rochester, N.Y. (1932) **A** OPA, **chief accountant admin.**; Univ. of Rochester, asst. prof., T. **B** B.B.A., 1930, Univ. of Washington; Ph.D., 1935, Yale. **C** Stock exchange listing requirements. **D** 4, 9, 7. **E** Financing the automobile industry (grant-in-aid, S.S.R.C.). **F** Management trading (Yale Univ. Press, 1941).

SMITH, George Albert, Jr., Morgan Hall, Soldiers Field, Boston, Mass. (1941) **A** Harvard Univ., Grad. School of Bus. Admin., asst. dean, asso. prof., TRA. **B** A.B., 1926, Utah; M.B.A., 1934, D.C.S., 1937, Harvard. **C** Problems of organization and control peculiar to companies operating branch plants. **D** 11, 10, 3. **F** Co-author, Problems in business policy (Harvard Bus. School, issued yearly); "Silver, its status and outlook," Harvard Bus. Rev., 1934.

SMITH, George Cline, Jr., 24 Kingsbury Pl., St. Louis, Mo. (1942) **A WPB, asso. econ., A. B** A.B., 1939, A.M., 1940, Ph.D., 1942, Washington Univ. **C** Industrial decentralization: theory and measurement. **D** 10, 11, 4.

SMITH, Harry W., Univ. of New Hampshire, Dept. of Econ., Durham, N.H. (1924)

SMITH, Hartley Le Huray, 138 Cassidy Pl., New Brighton, S.I., N.Y. (1921)

SMITH, Helen Hunter, 5444 Arlington Ave., Apt. G-63, New York City. (1936)

SMITH, J. Martin, 1103 Flower Ave., Takoma Park, Md. (1942) **A BEW, ship. rep., econ., RA. B** Diplome, 1938, Univ. de Dijon; A.M., 1938, Columbia; Ph.D., 1941, Cambridge Univ. **C** The waiver of jurisdictional immunities. **D** 14, 16, 8. **E** Shipping.

*__SMITH, Jacob G.,__ 602 Crossett St., Syracuse, N.Y. (1903) **A** Smith, Bolan, and Gieselman, lawyers, member. **B** A.B., 1903, Cornell; LL.B., 1906, Harvard. **D** 6.

SMITH, James Gerald, 80 Murray Pl., Princeton, N.J. (1922) **A** Princeton Univ., prof. of econ., TR. **B** A.B., 1919, A.M., 1923, Ph.D., 1928, Princeton. **C** Development of trust companies in the United States (Holt, 1928). **D** 7, 1, 2. **E** History of manufacturing in N.J. before 1860; fundamentals of statistics. **F** Elementary statistics (Holt, 1932); Economic planning and the tariff (Princeton Univ. Press, 1932); Essential economic principles (with A. M. McIsaac) (Little, Brown, 1941). **G** WSE.

SMITH, John Joseph, Dept. of Com., 215 Richmond Trust Bldg., Richmond, Va. (1939)

SMITH, Joseph Earl, Youngstown Col., Youngstown, Ohio. (1927) **A** Youngstown Col., Dept. of Soc. Sci., head, dean of men, TA. **B** A.B., 1911, Oxford; A.M., 1914, Nebraska; Ph.D., 1930, Wallas Col. **C** Trends in British industrial education. **D** 17, 7, 3. **E** Curricula in industrial education.

SMITH, Lawrence, 88 Leighton Rd., Wellesley, Mass. (1923) **A** Wellesley Col., asso. prof., T. **B** B.A., 1915, M.A., 1916, Clark Univ. **D** 7, 5, 9. **E** Gold movements. **F** "The Zloty, 1924-35," J.P.E., 1936; "Suspension of the gold standard in raw material exporting countries," A.E.R., Sept., 1934; "England's return to the gold standard in 1925," Jour. of Econ. and Bus. Hist., 1932. **G** S.

SMITH, Lucius, 511 John St., N.W., Atlanta, Ga. (1934) **A** Herndon Homes, housing mgr., A. **B** A.B., 1911, Shaw; B.C.S., 1922, M.A., 1932, New York. **D** 20, 19, 16.

SMITH, Mark Anson, U. S. Tariff Com., 8th and E Sts., N.W., Washington, D.C. (1912) **A** U. S. Tariff Com., chief econ., RA. **B** A.B., 1910, Dartmouth; M.A., 1913, Wisconsin; Ph.D., 1927, Harvard. **C** Economic aspects of the duties on wool, with special reference to the period 1912-24. **D** 8, 10, 11. **F** The tariff on wool (Macmillan, 1926). **G** S.

SMITH, Nelson Lee, Fairfax Hotel, 2100 Massachusetts Ave., N.W., Washington, D.C. (1924) **A Bd. of Investigation and Res., transp., chmn., RA. B** A.B., 1921, M.C.S., 1922, Dartmouth; Ph.D., 1928, Michigan. **C** The fair rate of return in public utility regulation (Houghton Mifflin, 1932). **D** 14, 10. **E** Carrier taxation and subsidies; relative economy and fitness of carriers; legislative and administrative aspects of national transportation policy. **F** Economics (with Bruce W. Knight) (Ronald Press, 1929, 1930). **G** W.

SMITH, Newlin Russell, 550 Elm Ave., Swarthmore, Pa. (1934)

SMITH, Pierre Reublin, 819 Elyria Savings and Trust Bldg., Elyria, Ohio. (1930) **A** P. R. Smith and Co., investments, RB. **B** A.B., 1922, Oberlin. **D** 9, 7, 6. **E** Investments; insurance stocks; inflation stocks; inflation hedges; effect of federal currency debasement on investments.

SMITH, R(alph) Elberton, 601 North Carolina Ave., S.E., Washington, D.C. (1939) **A WPB, Res. and Anal. Sec., Statis. Div., econ., R; T. B** B.A., 1935, Wooster. **D** 8, 1, 10. **E** Dutiable value in the U.S.: a study in tariff administration (doctoral dissertation, Chicago).

SMITH, Robert Lyman, Fed. Res. Bank, Cleveland, Ohio. (1940) **A** Fed. Res. Bank, Dept. of Bus. Statis., mgr., A. **B** A.B., 1933, M.A., 1934, Oberlin. **D** 5, 7, 4.

SMITH, Robert Sidney, 681 Col. Sta., Durham, N.C. (1935) **A** Duke Univ., asst. prof. of econ., TR. **B** A.B., 1927, A.M., 1928, Amherst; Ph.D., 1932, Duke. **C** The sea consulate in Aragon. **D** 2, 19, 20. **E** History of Mexican guild merchant; population and business history of Catalonia, chiefly medieval. **F** The Spanish guild merchant (Duke Univ. Press, 1940); "Barcelona bills of mortality and population," J.P.E., 1936.

SMITH, Roy James, Univ. of California, Div. of Agric. Econ., Los Angeles, Calif. (1939)

SMITH, Victor Earle, Yale Univ., New Haven, Conn. (1937) **A** Yale Univ., asst. prof., T. **B** A.B., 1935, M.A., 1936, Michigan State Col.; Ph.D., 1940, Northwestern. **C** An application and critique of certain methods for the determination of a statistical production function for the Canadian automobile industry, 1917-30. **D** 1, 4, 8. **E** Statistical production functions for particular industries.

SMITH, Walter Buckingham, 128 E. Main St.,

Williamstown, Mass. (1925) **A** Williams Col., prof. of econ., T. **B** A.B., 1917, Oberlin; A.M., 1924, Ph.D., 1928, Harvard. **C** Money and prices in the United States, 1802-20. **D** 5, 8, 1. **E** History and policy of Second Bank of the U.S. **F** Fluctuations in American business, 1790-1860 (with A. H. Cole) (Harvard Univ. Press, 1935); "Wholesale commodity prices in the United States, 1795-1824," Rev. of Econ. Statis., 1927.

SMITH, Wendell Ross, 209 Univ. Hall, Iowa City, Iowa. (1940) **A** State Univ. of Iowa, asst. prof. of econ. and com., TR. **B** B.S.C., 1932, M.A., 1935, Ph.D., 1941, Iowa. **C** Iowa as a merchandise market (digest in State Univ. of Iowa Jour. of Bus., Jan., 1942). **D** 12, 14, 16. **E** Impact of war on Iowa business; postwar economic organization; war problems of public utilities. **F** Public utility economics (with C. W. Thompson) (McGraw-Hill, 1941); Workbook in economic geography (with H. H. McCarty) (Harper, 1940).

SMOLA, Frank Allen, 3238 N. New England Ave., Chicago, Ill. (1933) **A** Cicero Pub. Schools, prin., A. **B** A.B., 1929, Notre Dame; A.M., 1932, Northwestern. **D** 17; 1, 6.

SMOLINSKI, Harold J., Louisiana Poly. Inst., Ruston, La. (1940) **A** Louisiana Poly. Inst., asst. prof., T. **B** B.A., 1938, Louisiana State Normal Col.; M.B.A., 1940, Louisiana State Univ. **D** 4, 17, 11.

SMYTHE, Limen Towers, South Dakota State Col., Agric. Econ. Dept., Brookings, S.D. (1940) **A** South Dakota State Col., instr., TR. **B** B.A., 1934, M.A., 1937, Univ. of Washington. **D** 19, 15, 1. **E** Grain prices received by farms in S.D.

SMYTHE, (Mrs.) Mabel M., Lincoln Univ., Jefferson City, Mo. (1941) **A** Lincoln Univ., asst. prof., TR. **B** A.B., 1937, Mount Holyoke; M.A., 1940, Northwestern; Ph.D., 1942, Wisconsin. **C** Tipping occupations as a problem in the administration of protective labor legislation. **D** 17, 10, 19.

SNAVELY, Tipton Ray, Univ. of Virginia, Charlottesville, Va. (1918) **A** Univ. of Virginia, prof. of econ., T. **B** A.B., 1912, Emory and Henry Col.; M.A., 1915, Ph.D., 1919, Virginia; A.M., 1918, Harvard. **C** The taxation of Negroes in Virginia (Univ. of Virginia, 1918). **D** 6, 1. **E** History of taxation in Virginia. **F** "The incidence of income tax," Q.J.E., 1928; "Public utilities," in Ency. of Bus. (1931); The fiscal system of Tennessee (State Plan. Com. of Tenn., 1936). **G** WSE.

SNELL, Hampton Kent, 5700 Greenleaf Rd., Cheverly, Md. (1940) **A WPB, Civ. Sup. Div., Freight Transp. Unit, chief, prin. transp. econ., RA;** Univ. of Southern California, asso. prof. of transp., T. **B** A.B., 1925, M.A., 1928, Wisconsin; Ph.D., 1941, Yale. **C** Fourth section of Interstate Commerce Act and its application to the Pacific Coast. **D** 14, 10, 16. **E** Analysis of transportation needs of U.S. under war conditions.

SNIDER, Joseph Lyons, Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1918)

SNYDER, Barth J., 304 Old Lane, Dayton, Ohio. (1942)

SNYDER, Carl, 33 Liberty St., New York City. (1920)

SNYDER, Harry R., McGraw-Hill Book Co., 330 W. 42nd St., New York City. (1937)

SNYDER, Richard M., The Cliffs, Shipley Rd., Wilmington, Del. (1941) **A** Du Pont Co., Krebs Pigments Dept., chief statis., RB. **B** B.S. in Econ., 1928, M.A., 1941, Pennsylvania. **D** 4, 5, 1. **E** Time series analysis of pigment industry. **F** "Banks as investors," Barron's, **Nov. 9, 1931.**

SOGGE, Tillman M., 2354 Quincy St., N., Arlington, Va. (1937) **A** U. S. Bur. of the Census, Div. of cur. mfrs. reports, prin. tech. expert, R. **B** B.A., 1924, St. Olaf; M.A., 1931, Ph.D., 1936, Minnesota. **C** Age distribution and population changes in the United States and their economic consequences. **D** 17, 18, 20. **F** "Industrial classes in the United States in 1930," Jour. of Amer. Statis. Asso., 1933; Occupational trends in Minnesota (with A. H. Hansen) (Univ. of Minnesota Press, 1933); "Industrial classification in relation to unemployment compensation," Soc. Sec. Bul., 1938. **G** S.

SOLDINGER, Morris A., 619 E. Pabst St., Ironwood, Mich. (1935) **A** Gogebic Junior Col., instr., T; Bd. of Educa., Ironwood, secy., B. **B** B.S., 1933, M.S., 1936, Illinois. **D** 1, 4, 17. **F** "Good accounting practices," Nation's Schools, Nov., Dec., 1940; "Financing a junior college," School and Society, May 3, 1941.

SOLLENBERGER, Isaac J., Univ. of Oklahoma, Faculty Exch., Norman, Okla. (1926) **A** Univ. of Okla., Dept. of Fin., chmn., asso. prof., TRA. **B** B.A., 1914, Manchester Col.; M.S., 1920, Ohio State. **D** 7, 6, 9. **E** Monetary deposit banking in U.S. **F** The nature and the function of bank credit (booklet, Univ. Litho. Pub., 1932).

SOLTAR, Elsie B., 1329 Ft. Stevens Dr., Washington, D.C. (1942) **A** Soc. Sec. Bd., asso. econ. anal. **B** B.A., 1933, Wayne; M.A., 1934, Chicago. **D** 17, 11, 18.

SOLTERER, Josef, 516 Meridian Ave., East Falls Church, Va. (1932) **A** Georgetown Univ., T. **B** B.S., 1926, State Teachers Col., Hattiesburg, Miss.; A.M., 1930, Ph.D., 1932, Georgetown Univ. **C** The theories of foreign exchange. **D** 1, 4, 5. **F** "Relations of economics and jurisprudence," Georgetown Law Jour., 1930; "Implications of the capitalistic order," Soc. Sci., 1940; "Do Jesuits die in three's," Jour. of Amer. Statis. Asso., 1941.

SOMERS, Harold Milton, Univ. of Buffalo, Dept. of Econ., Buffalo, N.Y. (1941) **A** Univ. of Buffalo, asst. prof., T. **B** B.C., 1937, Toronto; Ph.D., 1942, California. **C** National income: a statistical and theoretical analysis. **D** 1, 7, 4. **E** Postwar fiscal and monetary policy. **F** "Monetary policy and the theory of interest," Q.J.E., May, 1941; "Impact of fiscal policy on national income," Canadian Jour. of Econ. and Polit. Sci., Aug., 1942.

SOMERS, Herman Miles, 1717 19th St., N.W., Washington, D.C. (1940) **A U. S. Army, capt., A;** U. S. Gov., sr. econ., R. **B** B.S., 1933, Ph.M., 1934, Wisconsin. **D** 18, 17, 4. **E** Fringe groups in the labor market (doctoral dissertation, Harvard). **F** "Ten delusions in need of relief," Survey Graphic, Feb., 1938; "The administration of public assistance in Massachusetts," Soc. Serv. Rev., June, 1938; "Adequacy of statistics in field of public aid," Jour. of Amer. Statis. Asso., Mar., 1941.

SOMERS, Richard H., Office Chief of Ordnance, Washington, D.C. (1931) **A** U. S. Army, Ordnance Dept., brig. gen., A. **B** B.S., 1907, U. S. Military Academy; M.B.A., 1928, Harvard. **D** 10. **G** W.

SOMMARIPA, George G., 131 Freeman St., Brookline, Mass. (1930)

SORKIN, (Mrs.) Cylvia Aaron, Washington Univ., Box 128, Skinker and Lindell, St. Louis, Mo. (1941) **A** Washington Univ., instr., T. **B** B.S.B.A., 1935, M.S.B.A., 1936, Ph.D., 1941, Washington Univ. **C** The banking theories of John Maynard Keynes and his critics. **D** 11, 1, 7.

SORRELL, Vernon G., 229 N. Dartmouth, Albuquerque, N.M. (1926)

SOUDEK, Josef, 900 West End Ave., New York City. (1939)

SOULE, George, 3 E. 69th St., New York City. (1942) **A Nat. Plan. Asso., econ., R;** New Republic, editor. **B** A.B., 1908, Yale. **D** 10, 11, 1. **E** Postwar planning; postwar problems in Latin America. **F** The strength of nations (1942), The coming American revolution (1935), A planned society (1933) (Macmillan). **G** W.

SOUTHARD, Frank Allan, Jr., Cornell Univ., Ithaca, N.Y. (1927) **A U. S. Treas. Dept., Div. of Monetary Res., asst. dir., RA;** Cornell Univ., prof. of econ., TRA. **B** B.A., 1927, Pomona Col.; Ph.D., 1930, California. **C** American industry in Europe (Houghton Mifflin, 1931). **D** 8, 7, 2. **E** Foreign exchange policy in Argentina, Chile, and Peru. **F** Canadian-American industry (Yale, 1936); Foreign exchange practice and policy (McGraw-Hill, 1940).

SOUTHWORTH, Constant, 4000 Cathedral Ave., Washington, D.C. (1938) **A OPA, Bldg. Materials Br., dir. of econ. anal., A. B** A.B., 1915, Harvard; Ph.D., 1929, Brookings. **C** The French colonial ven-

ture (P. S. King and Son, 1931). **D** 10, 8, 11. **G** S.

SOUTHWORTH, Shirley Donald, Col. of William and Mary, Williamsburg, Va. (1921) **A U. S. Treas., Div. of Monetary Res., sr. econ. anal., R;** Col. of William and Mary, prof. of econ., T. **B** A.B., 1920, A.M., 1921, Ph.D., 1927, Princeton. **C** Branch banking in the United States (McGraw-Hill, 1928). **D** 7, 1, 6. **E** Competitive price of money; capitalization theory of money. **F** Banking facilities for bankless towns (with John M. Chapman) (Amer. Econ. Coun. for the Study of Br. Bank., 1941). **G** S.

SPAFFORD, William Franklin, Conway Ct., Troy, N.Y. (1925)

SPAHR, Walter Earl, 8 Michigan Rd., Bellerose, L.I., N.Y. (1920) **A** New York Univ., School of Com., Dept. of Econ., chmn., prof., TRA. **B** A.B., 1914, Earlham; M.A., 1917, Wisconsin; Ph.D., 1925, Columbia. **C** The clearing and collection of checks (Bankers Pub. Co., 1926). **D** 7, 1, 10. **E** Book on money and banking. **F** Economic principles and problems (Farrar and Rinehart, 4th ed., 1940); The Federal Reserve System and the control of credit (Macmillan, 1930); Methods and status of scientific research (Harper, 1930). **G** WSE.

SPALDING, Merrill Ten Broeck, Box 556, Palo Alto, Calif. (1934)

SPANG, Kenneth Merwin, Ives St., Mt. Carmel, Conn. (1937) **A** Yale Univ., instr., TA. **B** A.B., 1933, Dartmouth; M.A., 1936, Columbia. **D** 7, 4, 5. **E** History of concept of hoarding in monetary literature to 1914 (doctoral dissertation, nearing completion). **G** S.

SPARKS, Earle Sylvester, Univ. of South Dakota, Vermilion, S.Dak. (1923)

SPARKS, Frank H., Crawfordsville, Ind. (1936)

SPAULDING, Charles B., Whittier Col., Whittier, Calif. (1941) **A** Whittier Col., prof. of econ., registrar, TA. **B** A.B., 1932, M.A., 1933, Ph.D., 1939, Southern California. **C** The development of organization and disorganization in the social life of a rapidly growing working-class suburb within a metropolitan district. **D** 5, 7, 1. **G** SE.

SPENCE, Ernest J., Billings Bridge P.O., Ottawa, Canada. (1941)

SPENCER, Francis Auten, Civil Aeronautics Bd., Commerce Bldg., Washington, D.C. (1939) **A** Civ. Aero. Bd., air transp. econ., R. **B** B.S., 1936, Northwestern; M.A., 1938, Ph.D., 1941, Princeton. **C** Control of air mail compensation (pub. as Air mail payment and the government, Brookings, 1941). **D** 14, 10. **E** Large-scale vs. small-scale air transportation.

SPENCER, Myron Jay, 812 Mitchell Ave., Cincinnati, Ohio. (1940) **A** Univ. of Cincinnati, instr., T. **B** B.A., 1939, M.A., 1940, Cincinnati. **D** 1, 6, 10. **F** Factors in economic growth and recession (master's thesis) (Univ. of Cincinnati, 1940).

SPENCER, Richard Carleton, 1875 Mintwood Pl., N.W., Washington, D.C. (1942) **A American Univ., lecturer on polit. sci., T;** WPA, Div. of Res. and Statis., soc. econ. (fin.), R. **B** B.A., 1921, M.A., 1922, Univ. of Colorado; Ph.D., 1928, Illinois. **C** Relation between the assembly and the council of the League of Nations. **D** 6, 10. **E** Comparative study, topically arranged, of lawmaking and control at the national level. **F** "Activities of the Colorado electorate," Amer. Polit. Sci. Rev., Feb., 1923; "The pressure for local spoils," Nat. Municipal Rev., Aug., 1936; "Separation of control and lawmaking in Sweden," Polit. Sci. Quar., June, 1940. **G** S.

SPENCER, William Homer, Univ. of Chicago, School of Bus., Chicago, Ill. (1941) **A** Univ. of Chicago, School of Bus., dean, TA. **B** B.S., 1907, Birmingham-Southern; Ph.B., J.D., 1913, Chicago. **D** 10. **E** Business ethics: sanctions and agencies. **F** Textbook on law and business (McGraw-Hill, rev. 1938); Casebook of law and business (McGraw-Hill, 1939); The National Railroad Adjustment Board (Univ. of Chicago Press, 1938). **G** WE.

SPENGLER, Edwin H., 114-28 177th St., Albans, L.I., N.Y. (1928) **A Nat. Res. Plan. Bd., consultant, R;** Brooklyn Col., Dept. of Econ., asso. prof., T. **B** B.S., 1925, City of New York; A.M., 1928, Ph.D., 1930, Columbia. **C** Land values in New York in relation to transit facilities (Columbia Univ. Press, 1930). **D** 6, 16, 1. **E** Urban finance studies. **F** Introduction to business (McGraw-Hill, rev. 1939); Memos to New York State Commission for Revision of Tax Laws (Albany, 1932). **G** S.

SPENGLER, Joseph John, Duke Univ., Dept. of Econ., Durham, N.C. (1928) **A OPA, Atlanta, chief reg. price econ., RA;** Duke Univ., prof. of econ. and bus. admin., T. **B** A.B., 1926, A.M., 1929, Ph.D., 1930, Ohio State. **C** Studies in American population. **D** 20, 1, 5. **E** Population; economic theory; social theory; political selection. **F** French predecessors of Malthus (Duke Univ. Press, 1942); France faces depopulation (Duke Univ. Press, 1938); The fecundity of native and foreign-born women in New England (Brookings, 1930). **G** WS.

SPIEGEL, David Kenneth, 390 Riverside Dr., New York City. (1940) **A** Univ. of Delaware, instr. in econ. and bus. admin., TB. **B** B.S., 1939, M.A., 1940, New York. **D** 17, 11, 16. **E** Administration of minimum wage legislation in N.Y. State (doctoral dissertation, New York); labor standards and selective service; history of hours and wage legislation.

SPIEGEL, Harold Robert, U. S. Treas. Dept., Div. of Monetary Res., Washington, D.C. (1942) **A** U. S. Treas. Dept., sr. econ., R. **B** A.B., 1932, Albion; M.A., 1934, Tufts. **D** 8, 6, 7. **E** Latin-American exchange position and control systems. **F** Contributor, Report to Finance Minister of American Advisory Economic Mission to Venezuela (1940).

SPIEGEL, Henry William, Duquesne Univ., Pittsburgh, Pa. (1938) **A** Duquesne Univ., Dept. of Econ., chmn., asso. prof., TA. **B** Dr. Jur. Utr., 1933, Univ. of Berlin; Ph.D., 1939, Wisconsin. **C** Land tenure policies at home and abroad (Univ. of North Carolina Press, 1941). **D** 1, 15, 8. **E** Agricultural policy; international economic relations; theory of economic policy. **F** "The economics of the military state," A.E.R., Dec., 1940; The economics of total war (Appleton-Century, 1942).

SPIELMANS, John V., 1332 I St., N.W., Washington, D.C. (1936) **B** Grad., 1914, Military Col., Vilna, Russia; B.A., 1923, M.A., 1925, Ph.D., 1928, Wisconsin. **C** The development of the German free trade unions in their relations to social democracy. **D** 17, 3, 11. **E** Closed shop issue. **F** Co-author, Characteristics of company unions (U. S. Dept. of Labor, Bur. of Labor Statis., 1937); "Labor disputes on rights and on interests," A.E.R., June, 1939; "Strikes under the Wagner Act," J.P.E., Oct., 1941.

‡**SPIETHOFF, Arthur Augustus Caspar,** Univ. of Bonn, Bonn, Germany. (1932)

SPINGARN, Edward David Woodberry, "Troutbeck," Amenia, N.Y. (1941)

SPOTTSWOOD, Augustin Demouy, 714 Arnstein Bldg., Knoxville, Tenn. (1941) **A** TVA, Transp. and Ind. Econ. Div., chief, A. **B** B.S., 1921, Alabama. **D** 14, 16, 3. **E** Effects of regionalized freight rates on economy of the nation.

SPRAGUE, Oliver Mitchell Wentworth, 13 Follen St., Cambridge, Mass. (1900)

SPRIEGEL, William Robert, Northwestern Univ., School of Com., Evanston, Ill. (1937) **A** Northwestern Univ., prof., T. **B** A.B., 1914, B.S., 1915, Lebanon Univ.; M.A., 1920, Ph.D., 1935, Michigan. **C** Replacement "demand" for automobile tires. **D** 11, 17. **E** Book on business organization; book on time and motion study. **F** Personnel management (McGraw-Hill, 1941); Industrial management (Wiley, 1940); Elements of supervision (Wiley, in press). **G** SE.

SPURR, William Alfred, Univ. of Nebraska, Col. of Bus. Admin., Lincoln, Neb. (1938)

SPURRIER, Leo, Huron Col., Huron, S.D. (1925) **A** Huron Col., T. **B** A.B., 1923, M.A., 1924, Kansas; Ph.D., 1940, Chicago. **C** Common stocks and bonds as long-term investments (Jour. of Bus., Univ. of Chicago, 1941). **D** 9, 4, 1.

STAEBLER, Neil, 3605 Minnesota Ave., Washington, D.C. (1933) **B** A.B., 1926, Michigan. **D** 10, 8, 3. **E** TVA. **F** The coal act: a case study in planning (privately pub., 1940); Wheat: a case study in planning (Edwards Bros., 1941).

STALEY, A. Eugene, Fletcher School of Law and Diplomacy, Medford, Mass. (1928) **A Bur. of the Budget, admin. consultant, A;** Fletcher School, prof. of int. econ. rela., TR. **B** A.B., 1925, Hastings; Ph.D., 1928, Chicago. **C** History of the Illinois State Federation of Labor (Univ. of Chicago Press, 1930). **D** 8, 10. **E** War and postwar economic adjustments. **F** War and the private investor (Doubleday, Doran, 1935); Raw materials in peace and war (Coun. on For. Rela., 1937); "The myth of the continents," For. Affairs, Apr., 1941. **G** S.

STALSON, J. Owen, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1935) **A** Management consultant, RA. **B** S.B., 1925, Minnesota; M.B.A., 1934, D.C.S., 1940, Harvard. **C** The history of life insurance marketing to 1867. **D** 11, 12, 2. **E** Management history of a life insurance company. **F** Marketing life insurance (Harvard Univ. Press, 1942).

STANFIELD, Boris Michael, Columbia Univ., Dept. of Econ., New York City. (1934)

STAPP, Peyton, 8433 Woodcliff Ct., Silver Spring, Md. (1936) **A** Bur. of the Budget, Div. of Statis. Stand., sr. econ., R. **B** A.B., 1931, M.A., 1933, Missouri. **D** 16, 6, 13. **F** Urban housing—summary of real property inventories (G.P.O., 1938).

STARK, Walter Ruskin, Fed. Res. Bd., Fed. Res. Bldg., Washington, D.C. (1920) **A** Fed. Res. Bd., asst. dir. of res., RA. **B** A.B., 1919, Michigan. **D** 9, 5, 7. **E** Fed. Res. research program. **G** W.

STARKWEATHER, Louis Pomeroy, 935 Oakwood Pl., Plainfield, N.J. (1934)

STARNES, George Talmage, Univ. Sta., Charlottesville, Va. (1924) **A** Univ. of Virginia, prof., T. **B** A.B., 1918, Emory and Henry; M.A., 1922, Ph.D., 1925, Virginia; M.A., 1924, Harvard. **C** Sixty years of branch banking in Virginia (Macmillan, 1931). **D** 17, 16, 12. **F** Joint author, Labor in the industrial South (1930), Some phases of labor relations in Virginia (Inst. for Res. in Soc. Sci., Univ. of Virginia). **G** WS.

STAUDINGER, Hans Wilhelm, New School for Soc. Res., 66 W. 12th St., New York City. (1936) **A** New School for Soc. Res., Grad. Faculty of Polit. and Soc. Sci., prof., TR; **dean, A. B** Ph.D., 1912, Univ. of Heidelberg, Germany. **C** Der Staat als Unternehmer (Diederichs, Jena, 1912). **D** 8, 10, 16. **E** Social and economic controls in Germany and Russia. **F** The future of totalitarian barter trade (mono., 1940), The United States and world reconstruction (1941) (Soc. Res. Studies on war and peace); Germany's economic mobilization for war (with Fritz Lehmann) (Nat. Ind. Conf. Bd., 1940).

STAUFFER, William H., Box 1664, Richmond, Va. (1942) **A** Commonwealth of Va., commissioner of pub. welfare, A. **B** B.S., M.S., 1923, Ph.D., 1926, Virginia. **C** The Federal Trade Commission and unfair competition. **D** 18, 6, 10. **F** Taxation in Virginia (Century, 1931); Rural and urban living standards (Century, 1930) **G** S.

STEAD, William Henry, 47 Picardy Lane, St. Louis, Mo. (1941) **A** Washington Univ., School of Bus. and Pub. Admin., dean, Dept. of Econ., head, TA. **B** B.A., 1920, Beloit; M.A., 1923, Chicago; Ph.D., 1926, Minnesota. **C** Promotion and training practices in industries in the Twin Cities and Milwaukee. **D** 17, 10, 18. **F** Democracy against unemployment (Harper, 1942); Occupational counseling techniques (with C. L. Shartle) (American Book, 1940); dir., Dictionary of occupational titles, etc. (Washington, D.C., 1935-39). **G** WSE.

STECKER, Margaret Loomis, 35 W. 96th St., New York City. (1917) **A** Soc. Sec. Bd., Bur. Old-Age and Survivors Ins., Field Studies Unit., chief, R. **B** A.B., 1906, Ph.D., 1925, Cornell. **C** The New York agreement: an unsuccessful experiment in collective bargaining. **D** 19, 17, 18. **E** Income, family composition, living arrangement, etc., of beneficiaries of old-age and survivors insurance. **F** Intercity differences in cost of living, 59 cities (WPA, Res. Mono. XII, 1937); Minimum wage legislation in Massachusetts (Nat. Ind. Conf. Bd., 1927); joint author, Unemployment benefits in the United States (Ind. Rela. Counselors, 1930). **G** S.

STEHMAN, J(onas) Warren, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1916) **A** Univ. of Minnesota, prof. of econ. and fin., T. **B** B.A., 1909, Lebanon Valley; M.A., 1910, Pennsylvania; Ph.D., 1922, Chicago. **C** The financial history of the American Telephone and Telegraph Company (Houghton Mifflin). **D** 9, 7, 8. **E** Corporate reorganization. **G** S.

STEIN, Emanuel, New York Univ., Washington Sq. Col., New York City. (1931) **A** New York Univ., asst. prof., T. **B** B.S., 1928, A.M., 1930, Ph.D., 1933, New York. **C** The housing problem in the City of New York. **D** 17, 10, 16. **E** Housing in the U.S.; administration of collective bargaining legislation. **F** Government and the investor (1941), War economics (1942), Labor problems in America (1940) (Farrar and Rinehart). **G** S.

STEIN, Harold, 4574 Kings Highway, Brooklyn, N.Y. (1929) **A** Brooklyn Col., instr. in statis. **B** M.B.A., 1926, City of New York. **D** 4, 5, 7. **E** Cyclical sequences in groups of stock prices (doctoral dissertation).

STEINER, George Albert, 6406 Beechwood Dr., Chevy Chase, Md. (1939) **A WPB, res. anal., RA;** Indiana Univ., asst. prof. of fin., TR. **B** B.S.C., 1933, Temple; M.A., 1934, Pennsylvania; Ph.D., 1937, Illinois. **C** The tax system and industrial development (part pub. by Univ. of Illinois). **D** 10, 9, 6. **F** Economic problems of war (with others) (Wiley, 1942); editor, Economic problems of national defense (1941), Indiana state disbursements (1939) (Indiana Univ.).

STEINER, William Howard, 325 Riverside Dr., New York City, (1916) **A** Brooklyn Col., Dept. of Econ., chmn., prof., TA. **B** B.S., 1916, A.M., 1917, Ph.D., 1921, Columbia. **C** Some aspects of banking theory (N.Y., 1920). **D** 7, 9, 8. **F** Federal Reserve banking practice (with H. P. Willis) (Appleton, 1926); Credit and its uses (with W. A. Prendergast) (Appleton, rev. 1931); Money and banking (with E. Shapiro) (Holt, rev. 1941). **G** WS.

STEMPF, Victor H., 38 Vine Rd., Larchmont, N.Y. (1942) **A** Touche, Niven and Co., partner, B. **B** B.C.S., 1915, St. Louis; C.P.A., 1917, Missouri, New York, Connecticut, California, Ohio, Michigan. **D** 4, 11, 10. **E** Auditing procedure.

STEPHAN, Audley Hobson Frederick, 201 Rosemont Ave., Trenton, N.J. (1934) **A War Dept., major, A;** N. J. Budget Dept., budget commissioner, A. **B** A.B., 1922, Princeton; M.A., 1935, Ph.D., 1939, Pennsylvania. **C** Possibilities of the use of cost accounting in public budget making. **D** 6, 1, 10.

STEPHAN, Frederick Franklin, Cornell Univ., McGraw Bldg., Ithaca, N.Y. (1935)

STEPHENS, George Asbury, 3518 Northampton St., N.W., Washington, D.C. (1912) **A** Fed. Trade Com., chief statis., R. **B** A.B., 1899, Baker; A.M., 1906, Ph.D., 1909, Chicago. **C** Influence of trade education upon wages (part pub. in J.P.E., 1911). **D** 10, 11, 4. **E** Price policies of mass food distributors. **F** The juvenile court system of Kansas (Mail and Breeze Pub. Co., Topeka, 1906); "Recent federal trust legislation," S. Atlantic Quar., Apr., 1915; "Determinants of lumber prices," A.E.R., June, 1917. **G** WSE.

STEPHENSON, Charles A., Amer. Transit Asso., 292 Madison Ave., New York City. (1942)

STERN, Alfred Whital, Drake Tower, 179 Lake Shore Dr., Chicago, Ill. (1920)

STERN, Boris, 5512 30th St., N.W., Washington, D.C. (1929) **A** U. S. Dept. of Labor, Bur. of Labor Statis., prin. econ. anal. **B** A.B., 1918, Harvard; A.M., 1922, Ph.D., 1925, Columbia. **C** Works council movement in Germany (Bur. of Labor Statis. Bul. 383). **D** 17, 4. **E** Labor yearbook. **F** Cargo handling and longshore labor conditions (Bul. 550, Feb., 1932), Labor productivity in the automobile tire industry (Bul. 585, July, 1933) (Bur. of Labor Statis.). **G** S.

STERN, Martin, 85 Barrow St., New York City. (1942)

STETTNER, Walter F., 51 Wendell St., Cambridge, Mass. (1942) **A Harvard Univ., res. asst., R. B** Dr. juris, 1937, Univ. of Vienna; M.A., 1941, Harvard. **D** 6, 7, 8. **E** Relation between taxation

and investment; some aspects of the public debt program (doctoral dissertation, Harvard).

STEVENS, George Diver, Flint Junior Col., Flint, Mich. (1941) **A** Flint Junior Col., instr. of econ., T. **B** A.B., 1936, George Washington; LL.B., 1939, Michigan. **D** 17, 3, 10. **E** Thorstein Veblen's contribution to business cycle theory.

STEVENS, W(ayne) Mackenzie, Western Maryland Dairy, Linden and Dolphin Sts., Baltimore, Md. (1926) **A** Univ. of Maryland, Col. of Com., dean; Western Maryland Dairy, treas. **B** B.S., Illinois; M.B.A., Northwestern; Ph.D., American; C.P.A., District of Columbia. **C** Factors affecting the price of a semiperishable agricultural product (American Univ.). **D** 11, 12, 9. **F** Financial organization and administration (American Book, 1934); Practical co-operative accounting (Univ. of Nanking, in English and Chinese, 1936); Co-operative sugar associations (Pan Amer. Union Mono., in English and Portuguese, 1939). **G** WSE.

STEVENS, William Harrison Spring, 1940 Biltmore St., Washington, D.C. (1942)

STEVENSON, John Alford, Penn Mutual Bldg., Philadelphia, Pa. (1941) **A** Penn Mutual Life Ins. Co., pres., B. **B** A.B., A.M., Wisconsin; Ph.D., 1918, Illinois. **C** The project method of teaching (Macmillan, 1921). **D** 9, 8, 18. **F** Constructive salesmanship (Harper, 1923); Education and philanthropy (Appleton, 1927); Selling life insurance (Harper, 1922). **G** W.

STEVENSON, Louis Tillotson, 60 E. 42nd St., New York City. (1935) **A WPB, produc. and inventory anal., A;** B. **B** Ph.B., 1906, Yale; M.B.A., 1933, D.C.S., 1935, New York. **C** Background and economics of American paper making (Harper, 1940). **D** 1, 5, 10. **F** The paper industry and the business cycle (Tech. Asso. of Pulp and Paper Ind., 1936).

STEVENSON, Robert Clark, Univ. of Idaho, S. Br., Pocatello, Idaho. (1934) **A** Univ. of Idaho, S. Br., prof., T. **B** A.B., 1925, Occidental; M.A., 1926, Columbia; Ph.D., 1929, California. **C** Theories of war and peace. **D** 1, 10, 7.

STEVENSON, Russell Alger, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1927) **A** Univ. of Minnesota, School of Bus. Admin., dean, A. **B** A.B., 1913, Ph.D., 1919, LL.D., 1941, Michigan; M.A., 1915, Iowa. **D** 4. **E** Employment, unemployment, and relief in St. Paul, Minn.; income of Minn.; effects of alternative postwar settlements on the economies of the prairie provinces of Canada and the central northwest region of the U.S. **G** WSE.

STEWART, Bryce Morrison, Dept. of Labour, Ottawa, Canada. (1921) **A Dept. of Labour of Canada, deputy minister, A;** Ind. Rela. Counselors, N.Y., dir. of res., R. **B** M.A., 1911, Queen's Univ.; Ph.D., 1926, Columbia. **C** Canadian labor laws and the treaty (Columbia Univ. Press, 1926). **D** 17, 18. 4 **F** Unemployment benefits in the United States (1930), Planning and administration of unemployment compensation in the United States (1938) (Ind. Rela. Counselors). **G** WS.

STEWART, John Lammey, 811 30th St., S.E., Washington. D.C. (1925)

STEWART, Paul William, 9 Rockefeller Plaza, New York City. (1931) **A** Paul W. Stewart and Asso., pres. **B** B.S., 1923, Pittsburgh. **D** 12, 11, 4. **F** Market data handbook of United States (U. S. Dept. of Com., 1929); co-author, National debt and government credit (1937), Does distribution cost too much? (1939) (Twentieth Cent. Fund).

STEWART, Stella. U. S. Bur. of Labor Statis., Washington, D.C. (1941) **A** Bur. of Labor Statis., Div. of Hist. Studies of Wartime Prob., chief, R. **B** B.S., 1900, Kansas State Col. **D** 10, 11.

STEWART, Walter W., Inst. for Advanced Study, Princeton, N.J. (1941) **A** Inst. for Advanced Study, prof., R. **B** A.B., 1909, LL.D., 1932, Missouri; LL.D., 1933, Dartmouth. **D** 7, 5, 9. **G** WSI.

STEWART, W(illiam) Blair, 3130 S.E. Bybee Blvd., Portland, Ore. (1930) **A OPA, Ore. price exec., A;** Reed Col., prof., T. **B** B.A., 1921, Reed; M.A., 1922, Illinois; Ph.D., 1925, Stanford. **C** Wheat prices, 1920-24. **D** 11, 10, 4. **E** Relation of prices and futures price spreads to carry-overs of agricultural commodities. **F** "The profits of professional speculators," Econ. Jour., Sept., 1934; Seasonal employment and unemployment compensation in Oregon (Reed Col., 1937); Trading in wool top futures (U. S. Dept. of Agric., 1941). **G** S.

STEYNE, Alan N., American Embassy, London, England. (1937) **A** U. S. For. Serv., 2nd Secy., Embassy, A. **B** B.Ph., 1921, Yale. **D** 8, 3, 2.

STIEFEL, Carl Friedrich, 150 Scotland Rd., South Orange, N.J. (1917)

STIGLER, George Joseph, Univ. of Minnesota, Minneapolis, Minn. (1940) **A** Univ. of Minnesota, asso. prof., T. **B** B.B.A., 1931; Univ. of Washington; M.B.A., 1932, Northwestern; Ph.D., 1938, Chicago. **C** Production and distribution theories (Macmillan, 1941). **D** 1, 11, 6. **E** Theory of monopoly price. **F** "Extent and bases of monopoly," A.E.R., June Sup., 1942; The theory of competitive price (Macmillan, 1942). **G** S.

STILES, Lynn Alan, 7653 Eastlake Ter., Chicago, Ill. (1937) **A** Ill. State Tax Com., railroad security anal. **B** A.B., 1935, Chicago. **D** 6, 1, 14. **E** Survey of realty tax delinquency in New Orleans, La. **F** Contributor, Survey of local finance in Illinois (Ill. State Tax Com., 1939-42).

STILL, Richard Ralph, 1611 5th St., S., Nampa, Idaho. (1942) **A U. S. Army. B** B.A., 1942, Idaho. **D** 1, 17, 5. **E** Economics of imperfect competition.

STIMSON, Claude William, Knox Col., Galesburg, Ill. (1929) **A** Knox Col., Dept. of Econ., chmn., prof. **B** A.B., 1920, Montana State Univ.; A.M., 1923, California; Ph.D., 1932, Chicago. **C** The exemption of property from taxation in the United States (Minn. Law Rev., Mar., 1934). **D** 6, 10, 1. **F** "Exemption from the property tax in California," Calif. Law Rev., Mar., 1933; "The exemption of churches from taxation," Taxes, June, 1940.

STINEBOWER, Leroy Dean, Dept. of State, Washington, D.C. (1933) **A** Dept. of State, asst. adviser on int. econ. affairs. **B** A.B., 1926, Kalamazoo; A.M., 1927, Chicago. **D** 8, 1, 3. **G** S.

STINNEFORD, Claude Laurence, A Earlham Col., Dept. of Econ. and Bus., head, prof. **B** B.S., 1926, Colby; M.A., 1927, Brown. **D** 1, 2, 17. **E** Current wage and hour doctrines (doctoral dissertation, Chicago); problems of war financing. **G** SE.

STITT, Louise, U. S. Dept. of Labor, Women's Bur., Washington, D.C. (1925)

STOCKDER, Archibald Herbert, Columbia Univ., School of Bus., New York City. (1925)

STOCKING, Collis A., 3225 N. Glebe Rd., Arlington, Va. (1927)

STOCKING, George Ward, Univ. of Texas, Dept. of Econ., Austin, Tex. (1923) **A OPA, Div. of Fuels, asst. admin., A;** Univ. of Texas, T. **B** B.A., 1918, Texas; M.A., 1921, Ph.D., 1925, Columbia. **C** The oil industry and the competitive system (Houghton Mifflin, 1925). **D** 10, 11, 17. **E** Economic significance and legal status of trade association activities; price determination under imperfect competition; wartime price control. **F** Potash—a study in state control (Richard Smith, 1930); Price research in the steel and petroleum industries (with others) (Nat. Bur. of Res., 1939). **G** WSE.

STOCKTON, Frank Tenney, 720 Indiana St., Lawrence, Kan. (1910) **A** Univ. of Kansas, School of Bus., dean, Dept. of Econ., chmn., A. **B** A.B., 1907, L.H.D., 1928, Allegheny; Ph.D., 1911, Johns Hopkins. **C** The closed shop in American trade unions. **D** 17, 10, 3. **F** International Molders' Union of North America (Johns Hopkins Studies, 1921). **G** WS.

STOCKTON, John R., 4809 7th St., N., Arlington, Va. (1940) **A WPB, Div. of Statis., prin. ind. econ., R;** Univ. of Texas, prof. of bus. statis., T. **B** B.A., 1925, Maryville; M.A., 1927, Ph.D., 1932, Iowa. **C** The rediscount policy of the Federal Reserve System, 1921-31. **D** 4, 5, 12. **F** An introduction to business statistics (Heath, 1938); Laboratory manual for business statistics (3rd series, Hemphills Book Store, Austin, 1940). **G** S.

STOCKWELL, Marvel Marion, 405 Hilgard Ave., Los Angeles, Calif. (1922) **A** Univ. of California

at Los Angeles, T. B A.B., 1920, Cornell Col.; M.A., 1922, California; Ph.D., 1926, Illinois. C Some problems of land taxation. D 6, 17, 1. E Calif. taxation. F Studies in California state taxation, 1910-35 (Univ. of California Press, 1939). G S.

STOFLET, Ada M., 2026 I St., N.W., Washington, D.C. (1941) A Soc. Sec. Bd., A. B A.B., 1931, Coe; 2 yr. cert. in soc. econ., 1933, Bryn Mawr. D 18, 17. F Labor force for the Philadelphia radio industry in 1936 (with Gladys L. Palmer) (WPA, and Univ. of Pennsylvania Ind. Res. Dept., Apr., 1938).

STOKES, Milton Lonsdale, 559 E. Main St., Annville, Pa. (1934) A Lebanon Valley Col., prof. of econ. and bus. admin., TA. B B.A., 1920, M.A., 1922, LL.B., 1926, Toronto; Ph.D., 1938, Pennsylvania. C The development and present position of central banking in Canada. D 7 14, 1. E Money and banking in Canada. F Bank of Canada (Macmillan of Canada, 1939). G S.

STOLPER, Gustav, 52 Wall St., New York City. (1940) A Consulting econ., writer. B Doctor of Law and Econ., 1911, Univ. of Vienna. D 1, 6, 5. F Deutsche Volkswirt (weekly, Berlin, 1925-1933); German economy, 1870-1940 (1940), This age of fable (1942) (Reynal and Hitchcock). G WI.

STOLPER, Wolfgang F., Swarthmore Col., Swarthmore, Pa. (1940) A Swarthmore Col., asst. prof., T. B M.A., 1935, Ph.D., 1938, Harvard. C British monetary policy and the housing boom (Q.J.E., Nov. Sup., 1941). D 1, 5, 8. E Text on international trade with H. K. Heuser (Blakiston). F "Protection and real wages" (with Paul A. Samuelson), Rev. of Econ. Studies, Nov., 1941. G S.

STONE, Edward, Wardman Park Hotel, Washington, D.C. (1937) A **OPA, Rent Div., Regulation and Rev. Br., chief, A.** B A.B., 1925, LL.B., 1927, M.A., 1933, Columbia. D 10, 7, 3. E Operating and maintenance costs and rental charges of residential properties. F Current monetary problems (1935), Contemporary legislative and banking problems (1934), Anti-depression legislation (1933) (Amer. Bankers' Asso.) G S.

STONE, Edward A., U. S. Employ. Serv., 15020 Woodward Ave., Detroit, Mich. (1941) A U. S. Employ. Serv., Mich. Reports and Anal. Sec., labor market anal. II, R. B A.B., 1936, A.M., 1940, Michigan. D 17, 16, 10. E Retail trading areas in Cheboygan Co., Mich. (1941); county balance of payments and land use planning (doctoral dissertation); occupational structure in local communities.

STONE, Nahum Isaac, 414 W. 118th St., New York City. (1899) A **War Ship. Admin., consultant;** Nat. Bur. of Econ. Res., pres. B A.M., 1901, Ph.D., 1915, Columbia. C Wages and regularity of employment in the dress and waist industry of New York City (U. S. Dept. of Labor Bul. 146, 1914). D 8, 11, 17. E Our postwar tariff policy. F Promotion of foreign commerce in Europe and in United States (Dept. of Com., 1907); Cotton manufactures (U. S. Tariff Bd. Report, 1912); Productivity of labor in the cotton garment industry (U. S. Bur. of Labor Statis., 1938). G WSI.

STONE, Raleigh Webster, Univ. of Chicago, Chicago, Ill. (1920) A Univ. of Chicago, asso. prof. of ind. rela., TR. B Ph.D., 1919, Chicago. C The origin of the survey movement. D 17, 1, 4. E Government regulation of trade unionism and collective bargaining. F Joint author, Financing of education in Iowa (Macmillan, 1924); The baking industry under NRA (1936), "Management as employer," Univ. of Chicago 50th Anniv. Symposium (1942) (Univ. of Chicago Press). G SE.

STRATTON, H. John, 1008 Grove St., Jacksonville, Ill. (1928) A Illinois Col., T. B Ph.D., 1929, Chicago. C Development of American pottery industry. D 19, 10, 6. E Text on consumer problems. F Consumer behavior (1940), Consumer problems (1942) (Midwest Debate Bur., Jacksonville).

STRATTON, Samuel Sommerville, 228 Brattle St., Cambridge, Mass. (1928) A **WPB, Bur. of Priorities, asst. chief, A;** Harvard Univ., Grad. School of Bus. Admin., prof. of econ., T. B B.S., 1920, Dartmouth; M.A., 1928, Ph.D., 1930, Harvard. C Economic development of special steel industry. D 11, 9, 10. F Joint author, Economics of iron and steel industry (McGraw-Hill, 1939), Financial instruments and institutions (McGraw-Hill, 1938), Price research in steel and petroleum industries (Nat. Bur. of Econ. Res., 1940). G S.

STRAUS, Percy S., R. H. Macy and Co., Herald Sq., New York City. (1916)

STRAYER, Paul Johnston, 4901 16th Rd., N., Arlington, Va. (1935) A **WPB, Civ. Sup. Div., sr. econ., R;** Princeton Univ., asst. prof. B A.B., 1933, Swarthmore; M.A., 1935, Ph.D., 1939, Columbia. C The taxation of small incomes (Ronald Press, 1939). D 6, 10, 7. G S.

STREETER, Thomas Winthrop, Sussex Ave., Morristown, N.J. (1912)

STRICKER, Adam Kramer, Jr., 240 Central Park S., New York City (1938) A **U. S. Army Signal Corps, sr. ind. spec., A;** Gen. Motors Corp., chmn's. staff. B S.B., 1929, M.I.T. D 1, 3, 11.

STRICKLAND, Maurice A., 432 North Ave., N.E., Atlanta, Ga. A Georgia School of Tech., asso. prof., T. B B.S., 1935, Georgia; M.B.A., 1936, Ph.D., 1939, New York. C Economics of United States Public Employment Service. D 1, 17. F Wool industry in the Southeast (with J. B. Hosmer) (Ga. Engr. Exp. Sta., 1941).

STRICKLER, Glen Wood, Univ. of Arizona, Dept. of Econ., Tucson, Ariz. (1941)

STRONG, Earl D., 1505 Park St., Grinnell, Iowa. (1922) A Grinnell Col., prof. of econ., TA. B Ph.B., 1909, Grinnell; M.A., 1912, Wisconsin; Ph.D., 1940, Columbia. C The Amalgamated Clothing Workers of America. D 10, 11, 8. G SE.

STRONG, Gordon Bartley, 2500 Q St., N.W., Washington, D.C. (1937) A **BEW, sr. econ. anal., R;** Duquesne Univ., head, prof. of bus. econ., T. B Ph.B., 1927, M.A., 1928, Ph.D., 1932, Chicago. C Adam Smith and eighteenth century concept of progress (Eden Pub. Co.). D 8, 5, 1.

STRUEVER, Marie N., 1852 53rd St., Brooklyn, N.Y. (1941) A **OPA, asst. econ.,** R. B A.B., 1935, Brooklyn; A.M., 1936, Columbia. D 10, 2, 17.

STRUVE, Louis William, 109 W. Jenkintown Rd., Weldon, Glenside P.O., Pa. (1938) A Gum, Inc., asst. comptroller, B. B B.A., 1927, Pennsylvania State Col.; Ed.M., 1937, Temple. D 4, 11, 12.

STUDENSKI, Paul, 10 Minetta St., New York City. (1930)

STUDLEY, Jeannette Dunster, 36 Pearl St., Hartford, Conn. (1942) A Consumers' League of Conn., exec. secy., R. B B.A., 1923, M.A., 1924, Michigan; M.S., 1925, Simmons. D 17, 18, 19. F A standard budget for women workers in Connecticut (1938), A primer of laws for Connecticut workers (1940), Child labor on tobacco plantations in Connecticut (1935) (Consumers' League of Conn.).

STURMTHAL, Adolf F., Bard Col., Annandale-on-Hudson, N.Y. (1941) A **Inst. for Econ. Educa., dir., A;** Bard Col., Columbia Univ., prof., T. B Ph.D., 1925, Univ. of Vienna. C Business cycles and capital market. D 5, 1, 17. E European labor, 1918-40.

SUBERCASEAUX, Guillermo, Calle Merced 152, Santiago, Chile, S. Amer. (1913)

SUBLETTE, Myrick Hughes, Mary Washington Col., Fredericksburg, Va. (1930) A Mary Washington Col., asso. prof. of bus., T. B A.B., 1921, Indiana State Teachers Col.; LL.B., 1925, Michigan; Ph.D., 1933, Illinois. C Legal personality of trade unions. D 4. 10, 7. F Introduction to institutional and business accounting (Edwards Bros., 1938); "The taxation of fictitious persons," Amer. Bar Asso. Jour., Oct., 1941.

SUFFERN, Arthur Elliott, 2015 Allen Pl., N.W., Washington, D.C. (1930)

SUFRIN, Sidney Charles, 2331 Cathedral Ave., N.W., Washington, D.C. (1935) A **WPB, Rubber Br., econ. adviser, RA.** B B.A., 1931, Pennsylvania; Ph.D., 1940, Ohio State. C An economic theory of wage-hour regulation. D 17, 1, 10. F "Recent strikes in agriculture," Amer. Jour. of Soc., 1936; "Wages and hours in the rubber industry," 1941, "The vendor-driver problem in milk," 1942, Monthly Labor Rev.

SUGIHARA, Edna, 2515 K St., N.W., Washington, D.C. (1941)

SUITER, William Oran, Guilford Col., N.C. (1940) **A N. C. Dept. of Revenue, Bur. of Tax Res., sup. of res., R;** Guilford Col., Dept. of Econ. and Bus., head, asso. prof., TA. **B** B.A., 1927, M.A., 1929, Texas; grad. work, Chicago. **D** 6, 7, 3. **E** Analysis of N.C. tax system. **F** "Types and extent of tax limitation laws," in Property Tax Limitation Laws (Bul. 36, Pub. Admin. Serv., 1934 and 1936); "State limits on local property taxes," Municipal Yearbook, 1936; "Poll taxes of the various states," Tax Systems. **G** S.

SULKIN, Lorraine L. (Mrs. S. Edward), 5535 Waterman Ave., St. Louis, Mo. (1939)

SULLIVAN, Rodman, Univ. of Kentucky, Lexington, Ky. (1930) **A** Univ. of Kentucky, asso. prof., TR. **B** A.B., 1923, Georgetown Col.; A.M., 1929, Kentucky; Ph.D., 1942, North Carolina. **C** The inheritance tax in Kentucky. **D** 1, 8, 19. **E** Financial history of Ky. **F** "The inheritance tax in the United States in the twentieth century," Taxes, July, 1935.

SUMBERG, Theodore A., BEW, Washington, D.C. (1942) **A BEW, econ., R. B** B.S.S., 1939, City of New York; grad. work, New School for Soc. Res. **D** 8, 7, 6. **E** International capital movements; exchange control; stabilization funds; public works; world trade reconstruction. **F** "Henry George," N. Y. Times, Sept. 3, 1939.

SUMNER, John Duncan, 6676 32nd Pl., N.W., Washington, D.C. (1928) **A OPA, Zinc, Lead, and Tin Br., price exec., A;** Univ. of Buffalo, prof. of econ., TR. **B** B.S., M.B.A., 1926, Ph.D., 1931, Northwestern. **C** Mississippi River transportation with special reference to the Federal Barge Line. **D** 11, 10, 14. **E** Pricing flexibility and cyclical change. **F** "Public utility prices," Rev. of Econ. Statis., Aug., 1940; "The effect of the depression upon earnings and prices of regulated and nonregulated industries" (with Ralph C. Epstein), A.E.R., Mar. Sup., 1936; "The effects of the war on price policies and price making," A.E.R., Mar. Sup., 1942. **G** S.

SUNDELSON, J(acob) Wilner, 444 Central Park W., New York City. (1931) **A Soc. Sec. Bd., consulting tax econ.; Dept. of Com., Marketing Laws Unit, tax consulting; R;** Rutgers Univ., asst. prof.; State of N.Y., Div. of the Budget, tax consultant; TR. **B** B.A., 1928, Univ. of Zürich, Switzerland; B.S., 1930, M.A., 1931, Ph.D., 1938, Columbia. **C** Budgetary methods in national and state governments (N. Y. State Tax Com. Spec. Report 14, 1938). **D** 6, 18, 10. **E** Fiscal problems of urban centers. **G** S.

SURFACE, Frank Macy, 1 W. 72nd St., New York City. (1923) **A** Standard Oil Co. of N.J., dir. of sales res., B. **B** A.B., 1904, M.A., 1905, Ohio State; Ph.D., 1907, Pennsylvania. **D** 12. **E** Costs of distribution; consumer attitudes. **F** The grain trade during the World War (Macmillan, 1928); American food in the World War (Stanford Univ. Press, 1930); co-author, Marketing (Ginn, 1940). **G** W.

SURVEYER, Arthur, Dominion Square Bldg., Suite 1201, Montreal, Canada. (1936)

SUTCLIFFE, William George, 685 Commonwealth Ave., Boston, Mass. (1941) **A OPA, consultant;** Boston Univ., Col. of Bus. Admin., dean, A. **B** B.A., 1919, British Columbia; M.A., 1922, Harvard. **D** 4, 5, 1. **F** Elementary statistical methods (McGraw-Hill, 1925); Statistics of businessman (Harper, 1930); Interpretation of business and financial conditions (with Richard P. Doherty). **G** S.

SUTHERLAND, Edward G., P.O. Box 1467, Reno, Nev. (1923)

SUTTON, Glenn Wallace, Univ. of Georgia, School of Com., Athens, Ga. (1937)

SWAN, Eliot J., Fed. Res. Bank, Div. of Res., 400 Sansome, San Francisco, Calif. (1941)

SWANISH, Peter Theo., 6527 Glenwood Ave., Chicago, Ill. (1933) **A** Ill. Dept. of Labor, Commissioner of Place. and Unemploy. Comp., A. **B** B.S.B., 1921, Minnesota; M.B.A., 1924, Northwestern; Ph.D., 1930, Chicago. **C** Taxation of agricultural classes in Soviet Russia. **D** 17, 11, 18. **F** Trades disputes clause under British unemployment insurance acts (Univ. of Chicago Press, 1937).

SWANSON, Arthur Emil, 2310 Central Pk. Ave., Evanston, Ill. (1915)

SWANSON, Ernst Werner, 3516 B St., S.E., Washington, D.C. (1940) **A Bur. of the Budget, sr. fiscal anal., R;** State Col. of Washington, asso. prof. of bus. admin., TR. **B** Ph.B., 1930, Ph.D., 1940, Chicago. **C** Scandinavian business cycle theory, 1898-1936. **D** 5, 6, 4. **E** Theoretical aspects of fiscal policy and budgetary control. **F** "An hiatus in the risk theories of Knight and Myrdal," Proceedings, Pacific Coast Econ. Asso., Dec., 1940.

SWARTHOUT, Arthur V., Nat. Oil Products Co., Harrison, N.J. (1941)

SWEENEY, Stephen, 25 Roselawn Ave., Lansdowne, Pa. (1931)

SWEET, Homer Newton, 80 Federal St., Boston, Mass. (1919)

SWEET, John Lafayette, 415 Fullerton Pkwy., Chicago, Ill. (1936) **B** Student, Northwestern, Chicago. **D** 11, 4, 5.

SWEEZY, Alan R., 4 Chapin Ct., Williamstown, Mass. (1941)

SWEEZY, Maxine Yaple (Mrs. Paul Marlor), Wilton, N.H. (1936) **A Vassar Col., asst. prof., T. B** A.B., 1933, M.A., 1934, Stanford; Ph.D., 1940, Radcliffe. **C** The structure of the Nazi economy (Harvard Univ. Press, 1941). **D** 19, 2, 6. **F** "Direct taxes by income classes," A.E.R., Dec., 1936. **G** W.

SWEEZY, Paul Marlor, Wilton, N.H. (1941) **A Harvard Univ., faculty instr., TR. B** A.B., 1931, Ph.D., 1937, Harvard. **C** Monopoly and competition in the English coal trade, 1550-1850 (Harvard Univ. Press, 1938). **D** 3, 2, 1. **E** Accumulation of capital: essentials of Marxian political economy (book to be pub. by Oxford Univ. Press, autumn, 1942). **G** S.

SWIFT, Harold H., Union Stock Yards, Chicago, Ill. (1924)

SWIFT, Pauline E., 12 Walnut Pk., Roxbury, Mass. (1941)

SWONGER, Clair Woods, New England Milk Producers' Asso., 73 Cornhill, Boston, Mass. (1941) **A** New England Milk Producers' Asso., econ., R. **B** A.B., 1925, Kansas; A.M., 1927, Harvard. **D** 1, 12, 7. **E** Milk prices, production, transportation.

TAEUBER, Conrad F., 4222 Sheridan St., Hyattsville, Md. (1942) **A** U. S. Dept. of Agric., Bur. of Agric. Econ., prin. soc. sci., R. **B** A.B., 1927, M.A., 1929, Ph.D., 1931, Minnesota. **C** Migration to and from selected German cities—an analysis of the data of the Official Registration System, 1900-29. **D** 20. **F** The people of the drought states (with C. C. Taylor) (WPA, Div. of Soc. Res., 1937); Rural migration in the United States (with C. C. Taylor) (WPA, 1939); "Agriculture and current population trends," Proceedings, Amer. Phil. Soc., 1939. **G** S.

TAEUSCH, Carl Frederick, U. S. Dept. of Agric., 3404 South Bldg., Washington, D.C. (1929) **A** U. S. Dept. of Agric., Div. of Program Study and Discussion head, TA. **B** Litt.B., 1914, Princeton; Ph.D., 1920, Harvard. **C** Analysis of the categorical judgment. **D** 1, 2, 15. **E** Usury; fair price. **F** Professional and business ethics (Holt, 1927); Policy and ethics in business (McGraw-Hill, 1931); "The concept of 'usury,'" Jour. of Hist. of Ideas, Apr., 1942. **G** WSE.

TAFT, Philip, 174 Irving Ave., Providence, R.I. (1937) **A** Brown Univ., asst. prof., TR. **B** B.A., 1932, Ph.D., 1935, Wisconsin. **C** History of labor in the United States, 1896-1932 (Macmillan, 1935). **D** 17, 18, 3. **E** R.I.—an example of a mature economy (with others). **F** "Labor's changing political line," J.P.E., 1937; Economics and problems of labor (Stackpole, 1942). **G** S.

TAGGART, Joseph H., 2500 Q St., N.W., Apt. 324, Washington, D.C. (1930) **A U. S. Army Air Force, capt.;** Univ. of Kansas, prof. of econ. **B** Ph.B., 1924, Yale; M.B.A., 1927, Harvard; Ph.D., 1938, Columbia. **C** Federal Reserve Bank of Boston (Bankers Pub. Co., 1938). **D** 7, 8, 5.

TAMAGNA, Frank Marius, Fed. Res. Bank, 33 Liberty St., New York City. (1940) **A** Fed. Res. Bank of N.Y., sr. statis., R. **B** LL.D., 1934, Royal

Univ. of Pavia, Italy; Ph.D., 1937, Yale. **C** The financial and monetary policy of the United States, 1922-34 (LL.D.); Chinese banking, structure, and policy (Ph.D.). **D** 7, 8, 3. **E** Financial structure of China in ancient and modern times (to be pub. 1942 by Inst. of Pacific Rela.). **F** Italy's interests and policies in the Far East (Inst. of Pacific Rela., 1941); The Japanese banking system (Rivista Bancaria, Milan, 1939).

TAMBY, Frank J., 1541 Metropolitan Ave., New York City. (1934)

TANDY, W. Lou, Eureka Col., Eureka, Ill. (1932) **A** Eureka Col., prof. of econ., T. **B** A.B., 1930, Wayne; M.A., 1931, Michigan; Ph.D., 1933, Illinois. **C** Economics of leisure—a study in consumption. **D** 19, 1, 3. **E** Systematic treatise in consumption.

TANENBAUM, Jerome, 525 Broadway, New York City. (1917)

TANNENBAUM, Frank, Columbia Univ., New York City. (1925) **A** Columbia Univ. **B** A.B., 1921, Columbia; Ph.D., 1928, Brookings. **C** Mexican agrarian revolution (Macmillan, 1928). **D** 16, 15, 17. **E** Economic history of Peru. **F** Whither Latin America? (Crowell, 1934); Crime and the community (Ginn, 1937). **G** WS.

TASCA, Henry J., 2000 Connecticut Ave., N.W., Washington, D.C. (1942) **A U. S. Naval Reserve, lieut. (j.g.);** Treas. Dept., prin. econ. anal. **B** B.S., 1934, Temple; M.B.A., 1934, Ph.D., 1937, Pennsylvania. **C** Reciprocal trade policy of the United States (Univ. of Pennsylvania Press, 1938). **D** 8, 7, 3. **E** Clearing agreements and economic planning. **F** World trading systems (League of Nations, Paris, 1939); "Fundamental aspects of trade agreements program," The Annals, 1940.

TATOR, Samuel Wesley, 389 Whitney Ave., New Haven, Conn. (1918) **A Fed. Milk Market Admin., Greater Boston Marketing Area, market admin.;** Junior Col. of Com., pres., TA. **B** B.S., 1913, A.M., 1927, Pennsylvania. **D** 10, 4, 3.

TAYLOR, Albion Guilford, 703 Powell St., Williamsburg, Va. (1928) **A** Col. of William and Mary, Dept. of Econ., prof. of polit. econ., Marshall-Wythe School, dean, TRA. **B** A.B., 1915, Des Moines; A.M., 1920, Nebraska; Ph.D., 1927, Illinois. **C** Labor policies of the National Association of Manufacturers (Univ. of Illinois Press). **D** 17, 3, 1. **F** Labor problems and labor law (Prentice-Hall, 1938). **G** WSE.

TAYLOR, Amos Elias, 1451 Jonquil St., N.W., Washington, D.C. (1917) **A** U. S. Dept. of Com., Int. Econ. Unit, chief. **B** A.B., 1915, Gettysburg; M.A., 1920, Chicago; Ph.D., 1924, Pennsylvania. **C** The economic weapon: the history of the commercial blockade. **D** 8, 7, 2. **E** Postwar studies. **F** Foreign investments in the United States (Bur. of For. and Dom. Com., 1937). **G** SE.

TAYLOR, A(rchibald) Wellington, 143 Stanmore Pl., Westfield, N.J. (1916) **A** New York Univ., dean, prof. of econ., TA. **B** A.B., 1902, Doane; A.M., 1910, Wisconsin. **D** 1, 3, 9. **F** Investment (Alexander Hamilton Inst., 1924). **G** WSE.

TAYLOR, Carl Damon, 85 S. Lake Ave., Albany, N.Y. (1920)

TAYLOR, Charles T., 606 Linwood Ave., Atlanta, Ga. (1941) **A** Fed. Res. Bank of Atlanta, Dept. of Res. and Statis. **B** B.S.B.A., 1931, Arizona; M.A., 1937, Ph.D., 1940, Duke. **C** Some relationships between the size of the city and per capita governmental cost and debt. **D** 1, 6, 4. **F** "Essential functions of city government," Soc. Forces, Mar., 1942.

TAYLOR, Edward F., 114-28 179th St., St. Albans, L.I., N.Y. (1924)

TAYLOR, George Rogers, R.F.D. 2, Amherst, Mass. (1922) **A OPA, New England reg. price dir., A;** Amherst Col., prof., T. **B** Ph.B., 1921, Ph.D., 1929, Chicago; M.A. (Hon.), 1938, Amherst. **C** Agrarian discontent in the Mississippi Valley preceding the War of 1812 (part pub. in J.P.E., Aug., 1931). **D** 2, 10, 1. **F** Co-author, The United States, a graphic history (Modern Age Books, 1937), Barriers to internal trade in farm products (U. S. Dept. of Agric., 1939); "Wholesale commodity prices at Charleston, South Carolina," Jour. of Econ. and Bus. Hist., Feb. and Aug., 1932. **G** SE.

TAYLOR, George William, 3440 Walnut St., Philadelphia, Pa. (1934) **A WLB, vice-chmn.;** Univ. of Pennsylvania, asso. prof. of ind. **B** B.S., 1923, Ph.D., 1929, Pennsylvania. **C** Postwar developments in the hosiery industry. **D** 17, 11, 10. **F** The full-fashioned hosiery worker (Univ. of Pennsylvania Press, 1931); Vertical integration in the textile industry (with others) (Textile Found., 1937); Inventory policies in the textile industry (with others) (Textile Found., 1939). **G** WS.

TAYLOR, Henry Charles, 600 S. Michigan Ave., Chicago, Ill. (1903) **A** Farm Found., dir., RA. **B** B.S. Agric., 1896, Iowa State Col.; Ph.D., 1902, LL.D., 1933, Wisconsin. **C** The decline of land-owning farmers in England (Univ. of Wisconsin Bul. 96). **D** 15, 8, 16. **E** World trade in agricultural products; national policies affecting agriculture. **F** Outlines of agricultural economics (Macmillan, rev. 1931). **G** WS.

TAYLOR, Horace, Columbia Univ., Hamilton Hall, New York City. (1924)

TAYLOR, Paul Schuster, 119 South Hall, Berkeley, Calif. (1921) **A** Univ. of California, prof. of econ., T. **B** B.A., 1917, Wisconsin; M.A., 1920, Ph.D., 1922, California. **C** Sailors Union of the Pacific (Ronald Press, 1923). **D** 15, 17, 20. **E** Agricultural labor and agricultural structure. **F** Mexican labor in the United States (1928, 1934). A Spanish-Mexican peasant community (1934) (Univ. of California Press); An American-Mexican frontier (Univ. of North Carolina Press, 1934). **G** WSI.

TAYLOR, Philip Elbert, 134 Maplewood Ave., West Hartford, Conn. (1934) **A U. S. Bur. of Labor Statis., state price econ. for Conn., R;** Trinity Col., asst. prof. of econ., T. **B** B.A., 1928, Doane; Ph.D., 1934, Yale. **C** The turnpike era in New England. **D** 3, 6, 1.

TAYLOR, Virdon Washington, 131 S. Hanover St., Cape Girardeau, Mo. (1942) **A** Soc. Sec. Bd., mgr., A. **B** B.S., 1938, M.A., 1939, Missouri. **D** 4, 1, 18.

TAYLOR, W(illiam) Bayard, Univ. of Wisconsin, Sterling Hall, Madison, Wis. (1923) **A OPA, Wis. state price officer, A;** Univ. of Wisconsin, Dept. of Econ., T. **B** B.A., 1918, Beloit; M.A., 1923, Ph.D., 1928, Minnesota. **C** Labor banking. **D** 9, 11. **F** Financial policies of business enterprise (Appleton-Century, 1942); collaborator, Social security and life insurance (Security Press, 1940).

TAYLOR, William Howard, 5852 N. Washington Blvd., Apt. 4, Arlington, Va. (1935) **A OPA, cost accountant;** Univ. of Pennsylvania, instr. in acctg., T. **B** B.S., 1931, M.S., 1932, Ph.D., 1934, Illinois; C.P.A., 1938, Illinois. **C** Financial reorganization of utility corporation. **D** 4, 14, 10.

TEAD, Ordway, Harper and Bros., 49 E. 33rd St., New York City. (1922) **A** Harper and Bros., editor, economic books, TAB. **B** A.B., 1912, D.H.L., 1942, Amherst; LL.D., 1939, St. Lawrence. **D** 17, 3, 10. **F** Personnel administration: its principles and practice (with Henry C. Metcalf) (3rd ed., 1933); Human nature and management (2nd ed., 1933); New adventures in democracy (1939). **G** WSE.

TEAF, Howard Morris, Jr., 207 W. Plumstead Ave., Lansdowne, Pa. (1935) **A OPA, Steel Br., Fabricated and Reusable Products Sec., chief, A;** Haverford Col., asst. prof. of econ., T. **B** B.S., 1924, M.A., 1933, Ph.D., 1935, Pennsylvania. **C** Self-insurance of workmen's compensation in Pennsylvania (Pa. Dept. of Labor and Ind. Spec. Bul. 40, Pt. II). **D** 10, 9, 18. **G** S.

TEBBUTT, Arthur R., Northwestern Univ., Evanston, Ill. (1939) **A** Northwestern Univ., prof., T. **B** A.B., 1927, Brown; A.M., 1930, Ph.D., 1935, Harvard. **C** Analysis of national bank failures, 1865-1934. **D** 4, 5, 11. **E** Analysis of national bank failures. **F** Behavior of consumption in business depression (Harvard Bur. of Bus. Res., 1933); Economic statistics (with Crum and Patton) (McGraw-Hill, 1937). **G** S.

TEMBY, J. L., 321 N. Level St., Dodgeville, Wis. (1925)

TEMPLE, Alan H., 55 Wall St., New York City.

(1939) A National City Bank of N.Y., vice-pres., B. B B.Litt., 1917, Columbia. D 7, 6, 5. G W.

TENER, Kinley John, Sewickley, Pa. (1921)

TENNANT, Richard Bremner, 4311 2nd Rd., N., Arlington, Va. (1941)

TEPER, Lazare, 3 W. 16th St., New York City. (1938) A Int. Ladies' Garment Workers' Union, dir. of res., R. B A.M., 1930, Ph.D., 1931, Johns Hopkins. C Hours of labor (Johns Hopkins Press, 1932). D 17, 13, 4. F Women's garment industry (I.L.G.W.U., 1937); Forty cents for the women's apparel industry (I.L.G.W.U., 1941).

TERBORGH, George Willard, 4542 26th St., N., Arlington, Va. (1928) A Machinery and Allied Prod. Inst., secy., A. B A.B., 1922, Oberlin; A.M., 1925, Chicago; Ph.D., 1928, Brookings. C Judicial interpretation of antitrust laws. D 10, 6, 5. G S.

TERESHTENKO, Valery John, 601 W. 149th St., Apt. 2, New York City. (1934) A U. S. Bur. of Labor Statis., project supt., acting tech. dir.; Rochdale Inst., lecturer, TR. B Engr., 1926, Co-operative Inst., Prague; Engr. of Econ., 1927, Czechoslovakian Politechnicom, School of Econ., Prague. C Problem of organization of co-operative export of grain from Russia. D 19, 3, 16. E Co-operatives and war economics (Latin-American and Chinese). F WPA projects on dairying (1940), abstracts of laws (1940), and co-operative education (1941).

TERPENNING, Walter Abram, 314 Michigan Ave., Albion, Mich. (1941) A Albion Col., Dept. of Econ. and Soc., head, prof., T. B A.B., 1914, Kalamazoo; Cert., 1916, Geneva Y.M.C.A. Training School; Ph.D., 1923, Michigan. C Social organizations working with rural people (Extension Dept., W.S.C., 1925). D 1, 2, 5. F Village and open-country neighborhoods (Appleton-Century, 1931). G WSE.

TESORO, George Alfred, American Univ., 1901 F St., N.W., Washington, D.C. (1942) A American Univ., res. fellow, R. B Jur.D., 1928, Dr. rer. pol., 1929, Ph.D., 1930, Univ. of Rome, Italy. C Le penalità delle imposte dirette (Milan, 1930). D 6, 1, 3. E Italian war financing, 1935-41. F The psychology of the witness (Bocca, Turin, 1929), Legal enforcement of direct taxation (Treves, Milan, 1930), Principles of fiscal law (Macri, Bari, 1938).

THAYER, Ralph Ira, 5528 15th Ave., N.E., Seattle, Wash. (1941) A Univ. of Washington, Col. of Econ. and Bus., teaching fellow, TR. B B.S., 1937, Northwestern. D 6, 14, 1. E Federal budgetary policy (master's thesis, Univ. of Washington).

THELEN, Max, 136 Alvarado Rd., Berkeley, Calif. (1935) A Thelen and Marrin, lawyers, sr. partner. B B.L., 1904, California; A.M., 1906, Harvard. D 10, 14, 9. F Leading railroad and public service commissions (State Printer, Sacramento, 1912). G W.

THEODORIDES, Angelos, Univ. of Toledo, Toledo, Ohio. (1940)

THOMAS, George, Univ. of Utah, Salt Lake City, Utah. (1917)

THOMAS, Herman Pollard, Morris House, Soldiers Field, Boston, Mass. (1940) A Univ. of Richmond, asso. prof., T. B B.A., 1917, Richmond; M.A., 1925, Ph.D., 1932, Virginia. C Group banking in the Northwest. D 7, 6, 10. G S.

THOMAS, Rollin George, 610 Dodge St., Lafayette, Ind. (1928) A Purdue Univ., prof. of econ., T. B A.B., 1919, Cornell Col.; A.M., 1923, Ph.D., 1930, Chicago. C Development of state banking in Chicago. D 7, 1, 8. F Modern banking (Prentice-Hall, 1937); Our modern banking and monetary system (Prentice-Hall, 1942). G S.

THOMAS, Roscoe L., P.O. Box 612, Butte, Mont. (1917)

THOMAS, Woodlief, 26 E. Bradley Lane, Chevy Chase, Md. (1924) A Fed. Res. Sys., Bd. of Gov., Div. of Res. and Statis., asst. dir. B B.S., 1922, Pennsylvania; Ph.D., 1928, Brookings. C Growth of production. D 7, 5, 9. F Growth of manufactures, 1899-1923 (with Edmund E. Day) (Census Mono. 8, 1928); "Use of credit in security speculation," A.E.R., Mar., 1935; "The banks and idle money," Fed. Res. Bul., 1940. G WS.

THOMPSON, C. Seymour, Univ. of Pennsylvania Lib., Philadelphia, Pa. (1933)

THOMPSON, Carey Carter, Amarillo Col., Amarillo, Tex. (1940)

THOMPSON, Charles Manfred, Univ. of Illinois, Col. of Com., Urbana, Ill. (1913)

THOMPSON, Donald Scougall, 10 E. Leland St., Chevy Chase, Md. (1942) A FDIC, Div. of Res. and Statis., chief, RA. B B.S., 1923, M.A., 1928, California. D 7, 4, 9. F "Actuarial and statistical basis of deposit insurance," Nat. Auditgram, Mar., 1940; "Deposit insurance and bank supervision," in A forum on finance (Columbia Univ. Press, 1940). G S.

THOMPSON, John Giffin, 1319 E. Capitol St., Washington, D.C. (1908)

THOMPSON, Samuel H., 3535 R St., N.W., Washington, D.C. (1941)

THOMPSON, Samuel Holliston, Iowa State Col., Ames, Iowa. (1923)

THOMPSON, William Dwight, 526 Main St., Racine, Wis. (1918)

THOMSON, (Mrs.) Dorothy Lampen, 100 Pelham Rd., New Rochelle, N.Y. (1927) A Hunter Col., asst. prof., T. B B.A., 1926, Carleton; Ph.D., 1929, Johns Hopkins. C Economic and social aspects of federal reclamation (Johns Hopkins Press, 1929). D 11, 1, 7. E Price and production policies in selected American industries.

THORNE, Alison Comish (Mrs. D. W.), c/o D. W. Thorne, Agronomy Dept., Utah State Col., Logan, Utah. (1937) A Housewife. B B.S., 1934, Brigham Young; M.S., 1935, Ph.D., 1938, Iowa State Col. C Evaluations of consumption in modern thought. D 19, 12. E Changes in the American standard of living during World War II. F "Capacity to consume," A.E.R., June, 1936; "Evaluations of consumption in scale-of-living studies," Soc. Forces, May, 1941.

THORP, Willard Long, 21 West St., New York City. (1920) A Dun and Bradstreet, dir. of econ. res.; Asso. Gas. and Electric Corp., trustee; RB. B A.B., 1920, Amherst; A.M., 1921, Michigan; Ph.D., 1924, Columbia; LL.D., 1935, Marietta. C The integration of industrial operation (U. S. Census Bur. Mono, 1924). D 14, 11, 10. F Economic institutions (Macmillan, 1928); Business annals (Nat. Bur. of Econ. Res., 1926); Economic problems in a changing world (Farrar and Rinehart, 1939). G WS.

THRESHER, Brainerd Alden, M.I.T., Cambridge, Mass. (1929) A M.I.T., asso. prof. of econ., dir. of admissions. B S.B., 1920, M.I.T.; A.M., 1927, Harvard. D 10, 3, 11.

THURSTON, Mather Francis, Grange Manor Apt. A-8, 1419 W. Grange Ave., Philadelphia, Pa. (1937)

TIBBITS, George Dudley, 3010 Foxhall Rd., N.W., Washington, D.C. (1938) A WPB, econ., R; R. B B.A., 1934, Dartmouth; M.A., 1939, Columbia. D 8, 16, 13. G S.

TIERNEY, John Lester, 2725 Washington Ave., Chevy Chase, Md. (1940)

TILLOTSON, Loyal Garis, Bradley Poly. Inst., Peoria, Ill. (1927) A Bradley Poly. Inst., Dean of Div., prof. of bus. admin. and econ., TA. B Ph.B., 1914, Chicago; M.B.A., 1926, Northwestern. D 9, 2, 6. E Personnel project for college seniors; industrial development of Peoria; economic history of Peoria (doctoral dissertation). F "Peoria 'festival' starts trade ball rolling," Ill. Jour. of Com., Nov., 1932; "Research in retailing," Women's Wear Daily, Oct. 25, 1940. G S.

TILTON, Cecil Gage, Univ. of Connecticut, Storrs, Conn. (1929) A Univ. of Connecticut, asso. prof. of bus. admin., TR. B B.S., 1924, M.S., 1925, California; M.B.A., 1929, Harvard. D 2, 17, 8. E Labor law; union incorporation and internal management. F William C. Ralston (Christopher, 1935); History of banking in Hawaii (Univ. of Hawaii, 1927); Incorporation of trade unions (Southwestern, 1937). G S.

TILTON, Earle Barton, Vilter Mfg. Co., 2217 S. 1st St., Milwaukee, Wis. (1940)

TIMMONS, John Francis, 103 N. Randall Ave., Madison, Wis. (1942) A U. S. Dept. of Agric., agric. econ., R. B B.S., 1937, M.A., 1938, Missouri.

D 15, 8. E Inheritance of agricultural land in the U.S. (doctoral dissertation, Wisconsin). F Renting Missouri farms (Mo. Agric. Exp. Bul., 1939); "Tenure status of farm people," Land Policy Rev., Aug., 1941.

TIMOSHENKO, Vladimir P(zokop), Food Res. Inst., Stanford University, Calif. (1934) A Stanford Univ., TR. B Cand. Ec. Sc., 1911, School of Econ., Poly. Inst., Petrograd, Russia; Ph.D., 1927, Cornell. C Wheat prices and the world wheat market. D 5, 8, 15. E Agricultural fluctuation and business cycles; economic problems of the Soviet Russia. F The role of agricultural fluctuations in the business cycle (Mich. Bus. Studies Vol. II, 1930); Agricultural Russia and wheat problem (Food Res. Inst., Stanford Univ., 1932); Monetary influences on postwar wheat prices (Wheat Studies of the Food Res. Inst., Vol. XIV, 1938). G S.

TINLEY, James Maddison, Univ. of California, Berkeley, Calif. (1938) A Univ. of California, asso. prof., TR. B B.Econ. (Honors), 1923, Transvaal Univ. Col., Univ. of South Africa; Ph.D., 1928, Minnesota. C The marketing of flue cured tobacco (incorporated in Business analysis of the Tobacco Growers Co-operative Association, U. S. Dept. of Agric., 1929). D 12, 15, 11. E Factors affecting efficiency of operation of lemon packing houses; food and the war (series of pamphlets on rationing, price control production and control over food supplies during wartime). F Public regulation of milk marketing in California (1938), Rationing and control of food supplies (1942) (Univ. of California Press); "The complex farm-labor problem of South Africa," Rural Soc., 1941. G S.

TIPPETTS, Charles Sanford, Mercersburg Acad., Mercersburg, Pa. (1920) A Mercersburg Acad., head master. B Litt.B., 1916, A.M., 1922, Ph.D., 1924, Princeton; Litt.D., 1942, Franklin and Marshall. C State banks and the Federal Reserve System (Van Nostrand, 1928). D 7, 6, 10. F Business organization and control (Van Nostrand, 1932); Revision of Horace White's Money and banking (Ginn, 1935); Autarchy: national self-sufficiency (pamphlet, Univ. of Chicago Press, 1933). G WS.

TITSWORTH, Henry H., Lock Box 481, Glens Falls, N.Y. (1937) A Glens Falls Portland Cement Co., pres. B A.B., 1897, Amherst. D 8, 6, 5.

TITUS, Paul Merlin, Gambier, Ohio. (1928) A Kenyon Col., prof., T. B A.B., 1926, Oberlin; A.M., 1930, Ph.D., 1933, Princeton. C State supervision of municipal indebtedness in Massachusetts, New Jersey, and Indiana. D 6, 7, 5. G S.

TODD, Arthur James, Northwestern Univ., 316 Harris Hall, Evanston, Ill. (1921) A Northwestern Univ., Dept. of Soc., chmn., prof., T. B B.L., 1904, California; Ph.D., 1911, Yale. C The primitive family as an educational institution (Putnams, 1913). D 17, 18, 20. F Theories of social progress (Macmillan, 1918); Industry and society (Holt, 1933); Chicago recreation survey, 5 vols., 1937-40. G WSE.

TODD, Edwin Smith, 721 E. High St., Springfield, Ohio. (1907) A Miami Univ., prof. emeritus. B A.B., 1893, Wittenburg; Ph.D., 1904, Columbia. C Sociological history of Clark County, Ohio. D 7, 1, 18. F Asso. ed., Nat. Tax Asso. Bul., 1929-31. G SE.

TOLLES, Newman Arnold, U. S. Dept. of Labor, Wage and Hour Div., Washington, D.C. (1928)

TOLLEY, Howard Ross, U. S. Dept. of Agric. Bur. of Agric. Econ., Washington, D.C. (1924) A Bur. of Agric. Econ., chief, A. B A.B., 1910, Indiana. D 15, 11, 10. G WS.

TONGUE, William W., 2922 W St., S.E., Washington, D.C. (1941)

TOOHEY, Paul George, 5335 Rockhill Rd., Kansas City, Mo. (1941) A Rockhurst Col., prof., T; New England Mut. Life Ins. Co., investment consultant. B B.S., 1931, A.M., 1932, Boston Univ. D 9, 4, 11. E Co-ordinating personal estates through life insurance contracts; statistical analysis of the use of Dow-Jones averages as a method of stock market forecasting (doctoral dissertation).

TOPKIS, Bernard Harry, 1316 New Hampshire Ave., N.W., Washington, D.C. (1939) **A OPA, RA.** B Ph.B., 1922, Chicago. D 13, 15, 17. F Labor requirements for various industries (articles in Labor Monthly Rev., Labor Inf. Bul., U. S. Bur. of Labor Statis., 1935-40).

TORGERSON, Harold W., 2420 N. 16th St., Arlington, Va. (1934) **A U. S. Naval Reserve, lieut.;** Northwestern Univ., asst. prof. B B.B.A., 1930, Minnesota; M.B.A., 1931, Ph.D., 1939, Northwestern. C Time deposits of commercial banks. D 9, 14, 7. F One hundred short problems in corporation finance (with Herbert E. Dougall) (Ronald Press, 1941); "Agricultural credit in the United States," Jour. of Land and Pub. Util. Econ., May and Aug., 1940. G S.

TOSDAL, Harry Rudolph, Soldiers Field, Boston, Mass. (1914) A Harvard Univ., Grad. School of Bus. Admin., prof., TR. B S.B., 1909, LL.D., 1940, St. Olaf; Ph.D., 1915, Harvard. C The Kartell movement in German industry. D 12, 8, 11. G WSIE.

TOSTLEBE, Alvin Samuel, 839 Forest Dr., Wooster, Ohio. (1923) A Col. of Wooster, Dept. of Econ., head, prof., T. B B.A., 1916, Iowa State Teachers Col.; M.A., 1920, Ph.D., 1924, Columbia. C The Bank of North Dakota: an experiment in agrarian banking (Columbia Univ., 1924). D 7, 6, 1. F A casebook for economics (with W. E. Weld) (Ginn, 1927). G W.

TOUGH, Rosalind, Hunter Col., 695 Park Ave., New York City. (1938) A Hunter Col., Dept. of Soc. and Anthropology, asst. prof., T. B B.A., 1924, M.A., 1925, Wisconsin; Ph.D., 1933, Northwestern. C Sunnyside Gardens in Queens, New York, a valuation of a limited dividend housing project (parts pub. in Jour. of Land and Pub. Util. Econ., Feb., May, 1932). D 16, 18. E Land planning and housing in Yorkville (with Sophia M. Robison). F "Federal housing and World War II," Jour. of Land and Pub. Util. Econ., May, 1942; "Land planning and housing in the urban community," in Planned society (Prentice-Hall, 1937).

TOUSLEY, Rayburn Dean, W. 912 29th St., Spokane, Wash. (1938) **A OPA, merchandising price spec., RA;** State Col. of Washington, asst. prof. of market., TR. B B.S.B.A., 1931, A.M., 1933, Missouri. D 12, 19, 11. E Advertising and merchandising of Washington State apples (doctoral dissertation). F "The Federal Food, Drug, and Cosmetic Act of 1938," Jour. of Market., Jan., 1941.

TOW, Clarence Wesley, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1936)

TOWER, Ralph Burnett, West Virginia Univ., Dept. of Econ. and Bus. Admin., Morgantown, W.Va. (1925) A West Virginia Univ., Dept. of Econ., chmn., prof., Bur. of Bus. Res., dir., TRA. B B.B.A., 1924, M.B.A., 1927, Boston Univ.; Ph.D., 1931, Cornell. C Luxury taxation and its place in a system of public revenues (N. Y. State Tax Com., 1931). D 6, 19, 10. E Problems, projects and questions in consumer economics. F Contributor, State aid and school costs, by Grace and Moe (McGraw-Hill, 1938); foreign language ed., Tax encyclopedia (Com. Cl. House, Inc., 1931-38). G SE.

TOWLE, Lawrence William, 845 E. Washington St., Appleton, Wis. (1932) A Lawrence Col., asso. prof., T. B B.A., 1924, Bowdoin; M.A., 1927, Ph.D., 1932, Harvard. C Time deposits. D 8, 7, 4. E Text on international trade and commercial policy. F "Time deposits and price stability, 1922-28," A.E.R., Dec., 1935; "Cyclical behavior of time deposits in the United States," Harvard Bus. Rev., Winter, 1936. G S.

TOWLES, John Ker, Chase Nat. Bank, 11 Broad St., 6th Floor, New York City. (1910) A Chase Nat. Bank, Investment Serv. Dept., econ. B. B B.S., 1902, M.A., 1904, Tulane; Ph.D., 1908, Yale. C Factory legislation of Rhode Island (Amer. Econ. Asso., 3rd ser., 1908). D 9, 7, 11.

TOWNE, Ezra Thayer, Univ. Sta., Grand Forks, N.Dak. (1905) A Univ. of North Dakota, School of Com., dean, A. B B.L., 1897, Wisconsin; Ph.D., 1903, Univ. of Halle. C The organic theory of society. D 1, 19, 10. F Social problems (Macmillan, rev. 1931). G WSE.

TOWNER, Rutherford H., 60 John St., New York City. (1904)

TOWNLEY, Webster Withers, 200 Walnut, Kansas City, Mo. (1942) **A** Townley Metal and Hardware Co., vice-pres., B. **B** Student, 1924-26, Princeton, 1941-42, Rockhurst Col. Inst. for Soc. Reconstruction. **D** 17. **E** Municipal policies in industrial relations.

TRAFTON, George Henry, 76 N. Main St., Leominster, Mass. (1926)

TRANT, James Buchanan, Louisiana State Univ., Col. of Com., Baton Rouge, La. (1923) **A** Louisiana State Univ., dean, prof., TA. **B** A.B., 1920, Howard Col.; A.M., 1921, Princeton; Ph.D., 1925, Illinois. **C** The gold standard and monetary stabilization. **D** 7, 5, 1. **E** America's gold problem. **F** Bank administration (McGraw-Hill, 1931); "Financing the production and marketing of cotton," June, 1931, "The social sciences," June, 1938, Southwestern Soc. Sci. Quar. **G** WS.

TRAVERS, Frank Joseph, Lincoln Nat. Life Ins. Co., Fort Wayne, Ind. (1939) **A** Lincoln Nat. Life Ins. Co., 2nd vice-pres. in charge of investments, RAB. **B** S.B., 1923, M.I.T. **D** 9, 6, 5. **E** Investment risks; community economic analysis; business and industrial trends.

TRAYWICK, Leland Eldridge, 517 N. Okmulgee Ave., Okmulgee, Okla. (1941) **A OPA, reg. office, res. asst., R. B** A.B., 1936, A.M., 1939, Missouri; Ph.D., 1942, Illinois. **C** Parallelisms in the economic ideas of Karl Marx and Thorstein Veblen (abstract privately pub., 1942). **D** 1, 2, 4. **E** Thorstein Veblen's "evolutionary" economics.

TREANOR, Glen Richard, 6924 8th St., N.W., Washington, D.C. (1929)

TREFFTZS, Kenneth Lewis, Univ. of Southern California, Col. of Com., Los Angeles, Calif. (1939) **A** Univ. of Southern California, asst. prof. of banking and fin., T. **B** B.S., 1936, M.S., 1937, Ph.D., 1939, Illinois. **C** The bankless communities in Illinois. **D** 7, 9, 5. **E** Unit banking in Ill.; Fed. Savings and Loan Ins. Corp. **F** "Regulation of loans to executive officers of commercial banks," J.P.E., June, 1942; "Statutory regulation of loans to directors of commercial banks," S. Calif. Law Rev., Mar., 1942.

TREUENFELS, Rudolf L., Room 1701, 19 W. 44th St., New York City. (1939)

TREZISE, Philip Harold, 4018 Lorcom Lane, Arlington, Va. (1939) **A ODT, ind. rela. anal., RA. B** A.B., 1936, M.A., 1939, Michigan. **D** 17, 10, 18. **E** Developments in union-management co-operation in American industry.

TRIFFIN, Robert, c/o C. Z. Brandt, Long Ridge, Stamford, Conn. (1942) **A** Harvard Univ., instr., T. **B** Bachelier en Philosophie, 1931, LL.D., 1934, Univ. of Louvain, Belgium; Ph.D., 1939, Harvard. **C** Monopolistic competition and general equilibrium theory (Harvard Univ. Press, 1940). **D** 1, 8, 11. **E** Introduction to modern economic theory (to be pub. in 1943 by Prentice-Hall). **F** "Theory of monetary overvaluation," Bulletin de Recherches Economiques, 1937; "Monopoly in particular-equilibrium and in general-equilibrium economics," Econometrica, 1941. **G** S.

TRIPP, L(ouis) Reed, Lehigh Univ., Dept. of Econ., Bethlehem, Pa. (1935) **A** Lehigh Univ., instr., T. **B** A.B., 1934, Union Col., Schenectady; Ph.D., 1942, Yale. **C** The relationship of unemployment compensation and relief in Pennsylvania. **D** 18, 6, 17.

TROP-KRYNSKI, Samson, 1400 Jesup Ave., New York City. (1942)

TROXEL, C(harles) Emery, Wayne Univ., Dept. of Econ., Detroit, Mich. (1936) **A** Wayne Univ., asst. prof., T. **B** B.S., 1929, Ph.D., 1935, Iowa; M.B.A., 1930, Northwestern. **C** Public utility aspects of the natural gas industry. **D** 14, 10, 5. **F** "Class prices for gas and electricity," A.E.R., June, 1938; "Obsolescence of public utility property," Jour. of Land and Pub. Util. Econ., Aug. and Nov., 1938; "Economic influences of obsolescence," A.E.R., June, 1936.

TROXELL, John Philip, 2018 Oakland Ave., Middle River, Md. (1929) **A** Glenn L. Martin Co., educa. dir., A. **B** A.B., 1920, Washburn; Ph.D., 1931, Wisconsin. **C** Labor in the tobacco industry. **D** 17, 11, 8.

TRUESDELL, Leon E., 3429 Ordway St., N.W., Washington, D.C. (1920)

TRUITT, Gray, Hofstra Col., Hempstead, L.I., N.Y. (1939) **A** Hofstra Col., Dept. of Econ., chmn., prof., TA. **B** A.B., 1921, DePauw; A.M., 1925, Columbia. **D** 7, 1, 9. **E** Methods of presenting the problems of money and credit in the introductory economics course in a liberal arts college. **F** Visualize principles and problems of economics (Oxford Book Co., rev. 1942); "Economics of public policy," in Introduction to politics (Crowell, 1941). **G** S.

TRUMBOWER, Henry R., Univ. of Wisconsin, Madison, Wis. (1905)

TRUMBULL, Wendell P., Univ. of Mississippi, University, Miss. (1942) **A U. S. Army Air Force, 2nd lieut., A;** Univ. of Mississippi, asst. prof., T. **B** B.S., 1937, Illinois; M.A., 1941, Michigan. **D** 6, 4, 1.

TSURU, Shigeto, 73 Martin St., Cambridge, Mass. (1938) **A** Harvard Univ., res. asst., R. **B** A.B., 1935, M.A., 1936, Ph.D., 1940, Harvard. **C** The development of capitalism and business cycles in Japan, 1868-97. **D** 5, 8, 2. **F** "Economic fluctuations in Japan, 1868-93," Rev. of Econ. Statis., Nov., 1941.

TUCKER, Donald Skeele, M.I.T., Cambridge, Mass. (1912) **A** M.I.T., prof. of econ., T. **B** A.B., 1906, Colorado Col.; A.M., 1912, Williams; Ph.D., 1922, Columbia. **C** Peoples' banks (Longmans, Green, 1922). **D** 9, 5, 1. **E** Income statements for investors. **F** "Capital money and revenue funds," A.E.R., to appear in Sept., 1942. **G** S.

TUCKER, Morrison Graham, FDIC, Washington, D.C. (1941) **A Alien Property Custodian, asst. to custodian, A;** FDIC, asst. chief bank exam, RA. **B** A.B., 1932, Dartmouth. **D** 7, 9, 6. **E** Purposes and techniques of bank supervision.

TUCKER, Robert Henry, Washington and Lee Univ., Lexington, Va. (1912) **A** Washington and Lee Univ., dean, TA. **B** A.B., 1893, A.M., 1897, LL.D., 1926, William and Mary; grad. work, 1908-10, 1915, Wisconsin. **D** 14, 6, 17. **F** "An application of cost accounting in rate making," J.P.E., June, 1915; "Social aspects of workmen's compensation laws," South Atlantic Quar., Apr., 1923; "Some aspects of intergovernmental tax exemption," S.E.J., Jan., 1940. **G** WSE.

TUCKER, Rufus Stickney, 436 Hillside Ave., Westfield, N.J. (1912) **A** Gen. Motors Corp., econ., B. **B** A.B., 1911, A.M., 1912, Ph.D., 1914, Harvard. **C** Incidence of taxes on real estate. **D** 11, 19, 6. **E** Distribution of ownership of income-producing property. **F** Balance of international trade of the United States (Dept. of Com., 1923-25); Big business, its growth and its plan (Twentieth Cent. Fund, 1936); "Distribution of income, 1863-1935," Q.J.E., Nov., 1938. **G** WS.

TUGWELL, Rexford Guy, La Fortaleza, San Juan, Puerto Rico. (1921)

TURNER, Arthur Piers Legh, Jr., U. S. Treas. Dept., Div. of Res. and Statis., Washington, D.C. 1934) **A Treas. Dept., sr. econ., R;** Montana State Univ., asso. prof., T. **B** A.B., 1930, A.M., 1933, Ph.D., 1935, Harvard. **C** The national banking system, 1863-79. **D** 7, 10, 6. **E** National banking system (Nat. Bur. of Econ. Res.). **F** "Fiscal policy and the defense program," Proceedings, Pacific Coast Econ. Asso., 1941. **G** S.

TURNER, Clarence Leslie, 1530 Chestnut St., Philadelphia, Pa. (1942) **A** Turner, Crook, and Zebley, partner, B. **B** LL.B., 1942, Blackstone Col. of Law; C.P.A., 1913, Pennsylvania. **D** 6, 4, 5. **F** "Highlights of Pennsylvania's corporate income tax," Nat. Tax. Mag., Apr., 1936; "Imposition of surtax on corporations improperly accumulating surplus," Spokesman (Pa. Inst. of C.P.A.'s), Dec., 1939; "Abnormalities in invested capital and income and the effect of specific relief provision of the Second Revenue Act of 1940," Jour. of Accountancy, Mar., 1941.

TURNER, John R., 706 Riverside Dr., New York City. (1941)

TURNER, Robert Clemens, 1506 Seminary Rd., Silver Spring, Md. (1935) **A WPB, prin. econ. statis., R;** Wayne Univ., asst. prof. of econ., T. **B** A.B., 1930, Hiram; M.B.A., 1932, Northwestern; Ph.D., 1937, Ohio State. **C** Member bank borrow-

ing (Ohio State Univ. Press, 1938). D 7, 4, 10.

TURNEY, M(erle) Clark, 443 Sulgrave Rd., Pittsburgh, Pa. (1935) A Carnegie-Illinois Steel Corp., Ind. Rela. Dept. B B.S., 1932, M.S., 1934, Ph.D., 1937, Illinois. C The rationalization of electric supply in the United States. D 17, 14, 6.

TUTHILL, John Wills, 3rd Secy. of American Legation, Ottawa, Canada. (1938)

TUTTLE, Frank Waldo, Peabody Hall, Univ. of Florida, Gainesville, Fla. (1922) A Univ. of Florida, asst. prof., T. B A.B., 1920, Kentucky; A.M., 1924, Illinois; Ph.D., 1934, Iowa. C Branch banking in the United States prior to 1860. D 7, 1, 9. E Continuous availability of bank deposits. F Should banks be allowed to fail? (Fla. Acad. of Sci., 1940); "Continuous availability of bank deposits," Jour. of Bus. (Univ. of Iowa), Mar., 1941; "Society's stake in commercial banks," Soc. Sci., Apr., 1940.

TUTTLE, Pierson Muir, Short Hills, N.J. (1915) **A Bankers Trust Co., B.** B Ph.B., 1914, Yale; M.A., 1917, Ph.D., 1920, Harvard. C History of railroad taxation in New Jersey. D 9, 7, 10.

TYLER, Cornelius Boardman, 165 Broadway, New York City. (1913)

TYSON, Francis Doughton, Univ. of Pittsburgh, Pittsburgh, Pa. (1918) **A U. S. Dept. of Labor, Commissioner of Conciliation, A;** Univ. of Pittsburgh, prof. of econ., TR. B A.B., 1909, Ph.D., 1912, Pennsylvania. D 17, 11, 3. E Changes in labor movement and recent development of collective bargaining; developments of unemployment compensation system. F The trend to federalization in unemployment compensation (Amer. Asso. for Soc. Sec., May, 1942). G WSE.

TYSON, Leonard Sherman, 5422 13th St., N.W., Washington, D.C. (1942) **A OPA, asst. bus. econ., RA.** B B.A., 1940, Buffalo. D 11, 6, 13.

UELAND, Alexander, 3900 Connecticut Ave., N.W., Washington, D.C. (1937) A Fed. Communications Com., statis., A. B Studied, American. D 14, 4, 3. E Economic research pertaining to communication; social and economic study of broadcasting industry. G S.

ULE, G. Maxwell, 5610 Ingleside Ave., Chicago, Ill. (1940) A McCann Erickson, Inc., Res. Dept., head, R. B M.B.A., 1937, Chicago. D 12, 4, 5, E Consumer and marketing problems in petroleum products, food products and specific durable consumer goods; statistical allocation of advertising appropriations for a durable consumer good (doctoral dissertation). F "Price movements of common stocks," Jour. of Bus., 1937.

ULLIAN, Frieda S., 35 Dolphin Rd., Newton Center, Mass. (1938) **A U. S. Bur. of Labor Statis., Harvard Unit, head, R;** R. B A.B., 1821, M.A., 1935, Ph.D., 1938, Radcliffe; Ed.M., 1922, Harvard. C Some economic aspects of the social security taxes. D 6, 4, 3.

ULLMAN, Adolph, 588 Commonwealth Ave., Boston, Mass. (1938)

ULMER, Carl D., 945 Koppers Bldg., Pittsburgh, Pa. (1926) A Koppers Co., asst. dir. of res., RAB. D 13, 14, 11.

ULMER, Melville J., 3824 N. 5th St., Arlington, Va. (1940) A U. S. Bur. of Labor Statis., econ., TR. B B.S., 1937, M.A., 1938, New York. D 11, 10, 5. E Behavior and control of price in the nonferrous metal industries (doctoral dissertation, Columbia). F Costs, prices, and profits in the secondary zinc industry (Apr., 1942), Prices in the secondary aluminum industry (May, 1942), The structure of prices in July, 1941 (Aug., 1941) (U. S. Bur. of Labor Statis.).

ULREY, Ivon William, 8712 Colesville Rd., Silver Spring, Md. (1941) **A OPA, econ., A;** B. B B.S., 1931, Ohio State; M.B.A., 1937, New York. D 5, 14, 10. E Price control in the iron and steel industry.

UMBREIT, Myron Henry, 2111 Ridge Ave., Evanston, Ill. (1928) A Northwestern Univ., asso. prof. of pub. util., TA. B A.B., 1918, Lawrence; M.A., 1925, Wisconsin; Ph.D., 1931, Northwestern. C Social and economic factors affecting the municipal ownership movement in the electric light and power industry. D 10, 14, 1. E Principles of public utilities; principles of economics. F Questions and problems in the principles of economics (McGraw-Hill, 1937); "The economic situation," Purchasing, Apr., 1937; "Significant trends in utility economics," Elec. World, May, 1937. G S.

UNDERHILL, H(arold) Fabian, Univ. of Illinois, Dept. of Econ., Urbana, Ill. (1936) A Univ. of Illinois, instr., T. B B.A., 1930, British Columbia; Ph.D., 1935, California. C Labor legislation in British Columbia. D 17, 18, 19. E Personnel policies in Ill. F "Canadian labor relations legislation," J.P.E., June, 1940; "Economist views personnel practices," Personnel Jour., Jan., 1941.

UNKRICH, Robert Clinton, 328 High St., Friendship Hghts., Chevy Chase, Md. (1940)

UNSTAD, Lyder K. L., Alma Col., Alma, Mich. (1934)

UNTERBERGER, S. Herbert, 3923 R St., S.E., Washington, D.C. (1935) **A OPA, econ., R.** B B.S., 1934, M.A., 1935, Pennsylvania. D 11, 18, 17.

UPGREN, Arthur Reinhold, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1932) **A Dept. of Com., Bur. of For. and Dom. Com., Nat. Econ. Unit, chief, RA;** Univ. of Minnesota, prof. of econ., TR. B B.A., 1920, Wisconsin; Ph.D., 1937, Minnesota. C Monetary policy in relation to price and output. D 8, 5, 7. E Postwar planning; domestic and international economic requirements for recovery. F Reciprocal trade agreements (Univ. of Minnesota Press, 1937); Raw materials and inter-American solidarity (Univ. of Chicago Press, 1942); "Triangular trade," J.P.E., 1936. G S.

UPHAM, Cyril Bryce, Univ. Club, Washington, D.C. (1931) A U. S. Treas., Deputy Comptroller of the Currency, A; American Univ., adjunct prof. B A.B., 1915, LL.D., 1938, Morningside; M.A., 1917, Ph.D., 1918, Iowa; LL.B., 1927, George Washington. C The Speaker of the House of Representatives in Iowa (Ia. Jour. of Hist. and Polit., Jan., 1919). D 7, 6, 10. F Closed and distressed banks (Brookings, 1934). G WS.

UPTON, R. Miller, 6318 Willow St., New Orleans, La. (1938)

USHER, Abbott Payson, 43 Larch Rd., Cambridge, Mass. (1911) A Harvard Univ., prof. of econ., TR. B A.B., 1904, A.M., 1905, Ph.D., 1910, Harvard. C History of the grain trade in France, 1400-1710 Harvard Econ. Studies, IX, 1913). D 2, 16. E Early history of banking. F Industrial history of England (Houghton Mifflin, 1920); History of mechanical inventions McGraw-Hill, 1929); Economic history of Europe (with W. Bowden and M. Karpovitch) (American Book, 1937). G WSE.

VAIL, Robert P., Montgomery Pl., Decatur, Ill. (1940)

VAILE, Roland Snow, 1409 Montague, N.W., Washington, D.C. (1924) **A WPB, Div. of Civ. Sup., br. chief, A;** Univ. of Minnesota, prof. of econ. and market., T. B B.A., 1910, Pomona; M.A., 1924, Harvard. D 12, 19, 8. F Economics of advertising (1927), Market organization (1930) (Ronald Press); Income and consumption (Houghton Mifflin, 1939). G WS.

VALENTINE, Roger Wendell, Halsey Stuart and Co., 201 S. LaSalle St., Chicago, Ill. (1924) A Halsey Stuart and Co., TB. B A.B., 1916, McKendree; A.M., 1921, Ph.D., 1924, Illinois. C The development of the bankers' acceptance in the United States. D 9, 7, 1.

VALGREN, Victor Nelson, 2947 Macomb St., N.W., Washington, D.C. (1910) A U. S. Dept. of Agric., Farm Credit Admin., prin. agric. econ., R. B B.A, 1905, Gustavus Adolphus; M.A., 1909, Minnesota; Ph.D., 1924, Chicago. C Farmers' mutual fire insurance in the United States (Univ. of Chicago Press, 1924). D 9, 15, 7. E Size in relation to efficiency of farmers' mutual fire insurance companies. F "The Agricultural Credits Act of 1923," A.E.R., Sept., 1923; Hail insurance on farm crops in the United States (Bul. 912, 1920), Crop insurance—risks, losses, and principles of protection (Bul. 1043, 1922) (U. S. Dept. of Agric.). G S.

VALK, Willem L., Weiszenbruchstraat 398, Den Haag, Holland. (1928)

Van ARSDELL, Paul Marion, Univ. of Illinois, 117 Commerce Bldg., Urbana, Ill. (1934)

Van BENSCHOTEN, William H., Nat. Life Ins. Co., Montpelier, Vt. (1942)

VANCE, Lawrence Lee, Univ. of California, 119 South Hall, Berkeley, Calif. (1942)

VANCE, Rupert Bayless, Chapel Hill, N.C. (1938) **A** Univ. of North Carolina, prof. **B** B.A., 1920, Arkansas State Col.; M.A., 1921, Vanderbilt; Ph.D., 1928, North Carolina. **C** Human factor in cotton culture (Univ. of North Carolina Press, 1929). **D** 20, 15, 16. **E** Human resources of the South. **F** Human geography of the South (Univ. of North Carolina Press, 1932); Memorandum on population redistribution (S.S.R.C., 1938). **G** WSE.

VANDERBLUE, Homer Bews, 2629 Stewart Ave., Evanston, Ill. (1911) **A** Northwestern Univ., School of Com., dean, prof. of bus. econ., A. **B** A.B., 1911, A.M., 1912, Northwestern; Ph.D., 1915, Harvard. **C** Railroad valuation. **D** 14, 9, 1. **F** Railroads: rates, service management (Macmillan, 1923); Business economics (A. W. Shaw, 1929); "Pricing policy in the automobile industry," Harvard Bus. Rev., 1939. **G** WS.

Van de WOESTYNE, Royal Stewart, 5428 Woodlawn Ave., Chicago, Ill. (1922) **A Univ. of Buffalo, visiting asso. prof., T. B** A.B., 1915, Beloit; A.M., 1921, Ph.D., 1932, Harvard. **C** State control of local finance in Massachusetts (Harvard Univ. Press, 1935). **D** 6, 2, 1. **E** Fiscal administration of the federal, state, and municipal governments. **G** S.

Van HOUTEN, Willard Boulette, Box 1249, Yale Sta., New Haven, Conn. (1939)

Van KIRK, Jay C., Tulane Univ., Col. of Com., New Orleans, La. (1937)

Van KLEECK, Mary, 130 E. 22nd St., New York City. (1916)

Van METRE, Ralph Mitchell, 4635 N. Capitol Ave., Indianapolis, Ind. (1931)

Van METRE, Thurman William, 35 Claremont Ave., New York City. (1916) **A** Columbia Univ., prof. of transp., T. **B** A.B., 1910, A.M., 1911, Indiana; Ph.D., 1913, Pennsylvania. **C** Development of internal commerce in the United States (privately pub.). **D** 14, 2, 1. **F** Transportation in the United States (Foundation Press, 1940); Economic history of the United States (Holt, 1926); Trains, tracks and travel (Simmons Boardman, 1928). **G** WS.

Van SANT, Edward Raguet, 5808 44th Ave., Hyattsville, Md. (1930). **A WPB, econ., R;** Pennsylvania State Col., asst. prof. of econ., TR. **B** A.B., 1922, Princeton; M.A., 1930, Pennsylvania State Col.; Ph.D., 1935, Johns Hopkins. **C** The floating debt of the federal government, 1919-34. **D** 8, 6, 3. **E** Resource basis of the American economy. **F** The floating debt of the federal government, 1919-36 (mono., Johns Hopkins Press, 1937). **G** S.

Van SICKLE, John Valentine, Vanderbilt Univ., Nashville, Tenn. (1924) **A** Vanderbilt Univ., dept. chmn., prof., TR. **B** A.B., 1913, Haverford; M.A., 1921, Ph.D., 1924, Harvard. **C** Direct taxation in Austria (Harvard Univ. Press, 1931). **D** 16, 6, 20. **E** Planning—a regional approach with particular reference to the southern region. **F** "Classification of land for taxation," Q.J.E., 1927; Public works, economic stabilization and the rural South (Vanderbilt Univ. Press, 1942). **G** WS.

Van TOOR, J. E., Farrar and Rinehart, Inc., 232 Madison Ave., New York City. (1933)

Van TUYL, Helen Louise, 318 N. Washington St., Alexandria, Va. (1942) **A OPA, econ., R. B** A.B., 1934, Swarthmore. **D** 10, 5, 8.

Van VOORHIS, Robert Henry, Box 4091, Duke Sta., Durham, N.C. (1940) **A** Duke Univ., instr., T. **B** A.B., 1939, A.M., 1941, Duke. **D** 4, 3, 1. **E** Borrowing our way to socialism—the economic thought of Pierre-Joseph Proudhon (doctoral dissertation).

Van WINKLE, Edward Hasbrouck, Rensselaer Poly. Inst., Troy, N.Y. (1935) **A** Rensselaer Poly. Inst., prof. **B** B.S., 1920, M.B.A., 1929, Harvard. **D** 4, 5, 11.

VARLEY, Dimitry V., 41 Grove St., New York City. (1940) **A Co-ord. of Information, consultant,** R; N. Y. Unemploy. Ins., State Advisory Coun., in charge of records, R. **B** B.S., 1928, M.A., 1930, Columbia. **D** 18, 4, 5.

VATTER, William Joseph, 8447 Constance Ave., Chicago, Ill. (1941) **A** Univ. of Chicago, asst. prof., T. **B** B.S., 1934, Miami Univ.; M.B.A., 1937, Chicago; C.P.A., 1936, Ohio. **D** 4, 9, 11. **E** Theory of accounting measurements (doctoral dissertation); textbook in managerial accounting.

VEATCH, Roy, 1314 34th St., N.W., Washington, D.C. (1940) **A BEW, Reconstruction and Development Sec., asst. chief. B** B.A., 1922, Oregon; Ph.D., 1929, Brookings. **D** 8, 2, 10. **E** Relief and reconstruction; other postwar economic adjustments.

VENNEMAN, Harry F., Falls Church, Va. (1937) **A** U. S. Bur. of the Budget, admin. anal., RA. **B** B.S., 1934, B.S. (Lib. Serv.), 1936, Columbia. **D** 18, 10, 17. **E** History of war administration. **G** S.

VENSTROM, Cruz, Univ. of Nevada, Reno, Nev. (1931)

VIAU, (Sister) Joseph Marie, Marymount Col., Salina, Kan. (1938) **A** Marymount Col., Dept. of Econ., head, TR. **B** A.B., 1929, Creighton; M.A., 1932, Marquette; Ph.D., 1938, St. Louis. **C** Hours and wages in American organized labor (Putnams, 1939). **D** 17, 18, 6. **G** S.

VICKERS, Enoch Howard, 820 College Ave., Morgantown, W.Va. (1902)

VICKERY, Charles Watson, Jr., Pub. Roads Admin., Washington, D.C. (1940) **A** Pub. Roads Admin., asso. statis., RA. **B** B.A., 1928, Ph.D., 1932, Texas. **C** Spaces in which there exist uncountable convergent sequences of points (Tohoku Math. Jour., 1934). **B** 14, 4, 6. **E** Automobile demand; survivor characteristics of automobiles; forecast of highway revenue. **F** "Punched card technique for the correction of bias in sampling," Jour. of Amer. Statis. Asso., 1938; "On drawing a random sample from a set of punched cards," Jour. of Royal Statis. Soc., 1939 Sup.; "Improvement of methods used in the highway planning surveys," Proceedings, Highway Res. Bd., 1942 (to be pub.). **G** S.

VICKREY, William Spencer, 1812 G St., N.W., Washington, D.C. (1936) **A** U. S. Treas., Div. of Tax Res., econ., R. **B** B.S., 1935, Yale; M.A., 1937, Columbia. **D** 6, 14, 4. **E** Behavior of marginal costs (doctoral dissertation); Marginal costs of railroads and utilities. **F** "Averaging of income for income tax purposes," J.P.E., June, 1939.

VILLARD, Henry Hilgard, 3620 Prospect Ave., N.W., Washington, D.C. (1935) **A WPB, Div. of Civ. Sup., prin. econ., RA;** Amherst Col. asst. prof., T. **B** B.A., 1932, Yale; B.A., 1934, M.A., 1939, Cambridge Univ.; Ph.D., 1941, Columbia. **C** Deficit spending and the national income (Farrar and Rinehart, 1941). **D** 5, 6, 7. **F** "The Federal Reserve System's monetary policy in 1931 and 1932," J.P.E., 1937; "Dr. Moulton's estimates of saving and investment," A.E.R., Sept., 1937; "Some aspects of the concept of capacity to produce," Rev. of Econ. Statis., 1939. **G** S.

VILLASEÑOR, Eduardo, 2a. Privada Frontera No. 14, Villa Alvaro Obregon, Mexico, D.F. (1927)

VINER, Jacob, Univ. of Chicago, Chicago, Ill. (1920) **A** Univ. of Chicago, prof., TR. **B** B.A., 1914, McGill; A.M., 1915, Ph.D., 1922, Harvard; LL.D., 1941, Lawrence. **C** Canada's balance of international indebtedness, 1900-13 (Harvard Univ. Press, 1924). **D** 1, 8, 6. **F** Dumping: a problem in international trade (Univ. of Chicago Press, 1923); Studies in the theory of international trade (Harper, 1937). **G** WSI.

VINING, Daniel Rutledge, Univ. of Arkansas, Fayetteville, Ark. (1937) **A** Univ. of Arkansas, asst. prof., T. **B** B.A., 1931, M.A., 1935, Texas. **D** 5, 4, 1. **E** Use of frequency distributions in the description of business fluctuations; inquiry into the regional variation of short-run business fluctuations (doctoral dissertation, Chicago). **F** "Suggestions of Keynes in the writings of Veblen," J.P.E., Oct., 1939; "A process analysis of bank credit expansion," Q.J.E., Aug., 1940.

VIRTUE, George Olien, 1415 C St., Lincoln, Neb. (1911) **A** Univ. of Nebraska, prof. of econ. emeritus. **B** A.B., 1892, M.A., 1893, Ph.D., 1897, Har-

vard. C Three aspects of the anthracite coal industry. D 2, 3, 17. E Economic history of the U. S.; capitalism. F Report of Special Commission on Taxation and Revenue (Woodruff Bank Co., 1914); ed. and co-author, Nebraska tax primer (Univ. of Nebraska, Col. of Agric., 1932); Labor conditions on the Minnesota iron ranges (U. S. Dept. of Labor, 1909). G WSE.

VIVIAN, Glenn F., Statis. Bur., Western Lines, 416 Chicago Union Sta., Chicago, Ill. (1939)

VOGT, Paul Leroy, U. S. Dept. of Agric., Bur. of Agric. Econ., Washington, D.C. A Bur. Agric. Econ., sr. soc. sci., R. B A.B., 1903, Chicago; Ph.D., 1907, Pennsylvania. C Sugar refining in United States (J. C. Winston, 1908). D 11, 20, 17. E Economics of decentralization. F Rural sociology (1918), Rural economics (1925) (Appleton); Church co-operation in community life (Abingdon Press, 1920). G SE.

von BECKERATH, Herbert, Duke Sta., Durham, N.C. (1934) A Duke Univ., prof., TR. B Ph.D., 1911, Univ. of Freiburg. C The cartels of the German silk industry (in German). D 3, 11, 10. E Book on interaction of political and economic forces in western civilization (ready for print). F Modern industrial organization (McGraw-Hill, 1933). G WS.

von CIRIACY-WANTRUP, Siegfried, Univ. of California, 207 Giannini Hall, Berkeley, Calif. (1940) A Univ. of California, asso. prof. of agric. econ., TR. B M.S., 1930, Illinois; Ph.D., 1931, Univ. of Bonn, Germany. C The optimum size of farms in the United States (Paul Parey, Berlin, 1932)). D 15, 5, 1. E Private and social economics of conservation; theory and economic significance to agriculture of joint and fixed costs. F Agricultural depressions and period of industrial stagnation (Paul Parey, Berlin, 1936); "Economics of joint costs in agriculture," Nov., 1941, "Private enterprise and conservation," Feb., 1942, Jour. of Farm Econ.

von MERING, Otto Oswald, 15 Pine St., Winchester, Mass. (1941) **A Tufts Col., lecturer, T**; R. B LL.D., 1909, Ph.D., 1914, Univ. of Halle, Germany. C Mortgages on entails (LL.D.), The liquidity of the German commercial banks (Ph.D.) (Gustav Fischer, Jena). D 6, 1, 8. E Shifting and incidence of taxation (2nd ed.); public finance. F Shifting of taxation (1928), Theory of international trade (1933) (Gustav Fischer, Jena); Liberal fiscal policy (Walter Rothschild, Berlin, 1931).

VOORHIES, Edwin C., Univ. of California, Col. of agric., Berkeley, Calif. (1925)

VOORHIS, Jerry, 501 Old House Office Bldg., Washington, D.C. (1942)

WACHTEL, Sidney Barnett, 3710 13th St., N.W., Washington, D.C. (1942) **A OPA, asst. econ., R**; New York Univ., asst. econ., TR. B B.S., 1939, M.A., 1941, New York. D 9, 11, 10. E Seasonal movements in industrial production and security prices (doctoral dissertation). F "Odds on a December-January advance," Barron's, Dec. 2, 1940; "Certain observations on seasonal movements in stock prices," Jour. of Bus. (Univ. of Chicago), Apr., 1942; "A note on forecasting security prices in wartime," Jour. of Amer. Statis. Asso., June, 1942.

WAGNER, Martin, 2207 E. 70th Pl., Chicago, Ill. (1939) A NLRB, field exam., A. B A.B., 1933, M.A., 1935, Michigan; B.A., Magdalen Col., Oxford. D 17, 10, 2.

WAITE, Warren C., Div. of Agric. Econ., Univ. Farm, St. Paul, Minn. (1924) A Univ. of Minnesota, prof. of agric. econ., TR. B B.S., 1919, M.A., 1921, Ph.D., 1924, Minnesota. C Price making forces in the central market. D 15, 4, 19. E Demand for agricultural products; factors influencing agricultural prices. F Economics of consumption (McGraw-Hill, 1928); Consumer and the economic order (with Ralph Cassady, Jr.) (McGraw-Hill, 1938); Seasonal variations of prices and marketings of Minnesota agricultural products (Minn. Agric. Exp. Sta. Bul. 127, 1938). G S.

WALD, Haskell Philip, 1432 Girard St., N.W., Washington, D.C. (1942) A Fed. Res. Sys., Bd. of Gov., jr. econ., R. B A.B., 1938, Clark Univ.; A.M., 1942, Harvard. D 6, 7, 1. F "Deposits by classes of depositors," Fed. Res. Bul., Oct., 1939, May, 1940.

WALDECK, Herman, Continental Ill. Nat. Bank and Trust Co., 231 S. LaSalle St., Chicago, Ill. (1934)

WALDEN, Sarah Scovill Whittelsey (Mrs. Percy Talbot), 210 St. Ronan St., New Haven, Conn. (1936) A Retired. B B.A., 1894, Radcliffe; Ph.D., 1898, Yale. C Massachusetts labor legislation (Amer. Acad. of Polit. and Soc. Sci., 1901). D 17, 1, 11.

WALES, Hugh Gregory, 3005 W. 19th St., Topeka, Kan. (1936) A Washburn Univ., Dept. of Econ. and Bus. Admin., TA. B B.A., 1932, Washburn; M.B.A., 1934, Harvard. D 12, 4, 15. E Kansas City wholesale fruit and vegetable market (doctoral dissertation). G SE.

WALKER, Dilworth, Univ. of Utah, Salt Lake City, Utah. (1937) A Univ. of Utah, School of Bus., dean, prof. of econ., TA. B A.B., 1916, Brigham Young; M.A., 1924, Utah State Agric. Col.; Ph.D., 1926, Cornell. C The production and marketing of New York market peas (Cornell Univ. Bul., 1929). D 3, 4, 6. F Utah state government and taxation studies (7 buls., State of Utah, 1936); Cycles in real estate activity (Univ. of Utah Bul., 1937). G S.

WALKER, Francis, 2848 McGill Ter., Washington, D.C. (1895)

WALKER, John Earl, 631 Tower Bldg., Washington, D.C. (1921) A Plastics Materials Mfrs. Asso., secy.-treas., B. B B.S., 1907, LL.D., 1926, Kalamazoo; B.S., 1907, Chicago; LL.B., 1916, George Washington. D 6. G S.

WALKER, Mabel Louise, 135 S. 36th St., Philadelphia, Pa. (1928) A Univ. of Pennsylvania, Tax Inst., dir., RA. B A.B., 1926, Barnard; Ph.D., 1930, Johns Hopkins. C Municipal expenditures (Johns Hopkins Press, 1930). D 6. F Urban blight and slums (Harvard Univ. Press, 1938); Tax yields, 1940 (Tax Inst., 1941).

WALKER, Q. Forrest, 151 W. 34th St., New York City. (1937) A R. H. Macy and Co., econ., A. B A.B., A.M., 1915, Albion; grad. work 1915-17, Illinois. D 12, 11, 19. F The consumer and the fair trade laws, Monopolistic aspects of the fair trade laws, An exposé of the fair trade laws with special reference to resale price fixing (R. H. Macy and Co.). G W.

WALL, Alexander, 1417 Sansom St., Philadelphia, Pa. (1934) A Robert Morris Asso., secy.-treas., RA. B A.B., 1902, Harvard. D 7, 9, 10. F Basic financial statement analysis (Harper, in press).

WALL, Norman Julian, U. S. Dept. of Agric., Bur. of Agric. Econ., Washington, D.C. (1936)

WALLACE, Benjamin Bruce, 3112 South Dakota Ave., Washington, D.C. (1923) A U. S. Tariff Com., adviser, R. B B.A., 1902, Macalester; Ph.D., 1912, Wisconsin. C Development of village government in New York State. D 8. E Aspects of postwar commercial policy. F "Preferential tariffs and the open door," The Annals, Mar., 1924; "Fallacies of economic nationalism," in Peace and war (Univ. of Minnesota, 1937); "Role of tariffs in international friction," in Financing the war (Tax Inst., 1942). G WS.

WALLACE, Donald H., 3310 35th St., N.W., Washington, D.C. (1928)

WALLACE, Elbert Stephen, Millsaps Col., Jackson, Miss. (1941) **A OPA, state price officer, A**; Millsaps Col., prof. of econ., T. B A.B., 1930, Birmingham-Southern; A.M., 1931, Ph.D., 1937, Duke. C The federal home loan bank system. D 10, 4, 7. F "Survey of federal legislation affecting private home financing since 1932," Law and Contempt. Prob., Autumn, 1938. G S.

WALLING, Herschel Chester, 2211 N. Quantico St., Arlington, Va. (1942) A U. S. Bur. of the Budget, acctg. anal., A. B B.B.A., 1927, M.B.A., 1928, Texas. D 4, 6, 10.

WALRADT, Henry Freeman, 411 W. 10th Ave., Columbus, Ohio. (1911) A Ohio State Univ., prof., T. B B.A., 1907, M.A., 1908, Ph.D., 1911, Yale. C The financial history of Connecticut from 1789

to 1861 (Transactions of Conn. Acad. of Arts and Sci., Mar., 1912). **D** 6, 2, 7. **E** Financial history of Ohio from 1900. **F** Report of the War Trade Board (with Bruce Mudgett) (G.P.O., 1920); contributor, Report of the Joint Committee on Taxation and State Finance to the Connecticut Chamber of Commerce (Tuttle, Morehouse, and Taylor, 1917); Who ultimately pays the taxes? (1927). **G** S.

WALSH, Floyd Edward, 2869 California St., Omaha, Neb. (1942)

WALSH, John Joseph, 1341 Quincy St., N.W., Washington, D.C. (1942) **A** Catholic Univ., instr., TR. **B** B.S., 1912, M.A., 1914, Columbia; Ph.D., 1940, Catholic. **C** Early banks in the District of Columbia (Catholic Univ. Press). **D** 1, 2, 5.

WALSH, J(ohn) Raymond, Williams Col., Williamstown, Mass. (1942) **A** Williams Col., prof. of econ., T. **B** A.B., 1921, Beloit; M.A., 1931, Ph.D., 1934, Harvard. **C** Capital value of man (Q.J.E., 1935). **D** 17, 7, 1. **E** Wage theory and collective bargaining; labor movement of Mexico. **F** Collaborator, Explorations in economics (McGraw-Hill, 1936); C.I.O., industrial unionism in action (Norton, 1937). **G** S.

WALTER, Edwin J., 375 Park Ave., New York City. (1917)

WALTERSDORF, Maurice Cleveland, 417 Locust Ave., Washington, Pa. (1925) **A** Washington and Jefferson Col., dean of bus. admin., secy. of faculty, prof. of econ., TA. **B** A.B., 1916, Franklin and Marshall; A.M., 1922, Ph.D., 1925, Princeton. **C** Regulation of public utilities in New Jersey (Waverly Press, 1936). **D** 14, 17, 6. **E** Public utility economics. **F** "Public utility rate making in New Jersey," A.E.R., June, 1926; "Going value in utility valuation," A.E.R., Mar., 1927; "State control of utility capitalization," Yale Law Jour., Jan., 1928. **G** WSE.

WALTHER, Herman O., 65 W. Jackson Blvd., Chicago, Ill. (1938)

WALTON, (Mrs.) Ina Thomas, 2208 Sherman Ave., Evanston, Ill. (1936) **A** Wright Junior Col., instr., T. **B** A.B., 1920, M.A., 1922, Chicago. **D** 1, 17, 7. **F** Joint author, Introduction to social science (Macmillan, 1941).

WANDEL, William Hamlin, 1802 N. Wakefield St., Arlington, Va. (1929) **A** Soc. Sec. Bd., Unemploy. Comp. Div., chief, A. **B** B.S., 1928, Pennsylvania; M.S., 1931, Ph.D., 1935, Columbia. **C** The control of competition in fire insurance (Lancaster, 1935). **D** 18, 1, 9. **F** Workmen's compensation and auto liability insurance in Virginia (Appleton-Century, 1931); Stabilization of employment and unemployment reserves (State of Virginia, 1934); Social Security Act in operation (Graphic Arts Press, 1937). **G** S.

WAPLES, Eliot O., Univ. of Wisconsin, 304 Agric. Hall, Madison, Wis. (1942)

WARBURTON, Amber Arthun (Mrs. Clark), McLean, Va. (1941) **A** U. S. Dept. of Labor, Children's Bur., asso. in ind. res., R. **B** A.B., 1920, Univ. of Washington; M.A., 1927, Columbia. **D** 17, 20, 16. **E** Employment, education, and health of children of agricultural laborers in Hidalgo Co., Tex.

WARBURTON, Clark, McLean, Va. (1922) **A** FDIC, prin. econ., R. **B** B.A., 1921, M.A., 1928, Cornell; Ph.D., 1932, Columbia. **C** The economic results of prohibition (Columbia Univ. Press, 1932). **D** 7, 19, 11. **E** Deposit guaranty systems in the U. S., 1829-1933; losses in operating and closed commercial banks, 1865-1940. **F** Contributor, America's capacity to consume (Brookings, 1934), Studies in income and wealth (Nat. Bur. of Econ. Res., 1937, 1939). **G** S.

WARD, Frank Bird, 400 Forest Hills Blvd., Knoxville, Tenn. (1924) **A** Univ. of Tennessee, dept. head, prof. **B** Ph.B., 1917, Denison; A.M., 1920, Cincinnati; Ph.D., 1926, Pennsylvania. **C** The United States Railroad Labor Board and railway labor disputes (privately pub.). **D** 17, 1, 9. **E** Methods of increasing the labor supply in time of war.

WARD, James Edward, Jr., Clemson Col., Clemson, S.C. (1934) **A** Clemson Col., Div. of Soc. Sci., head, prof. of econ. and gov., T. **B** B.S., 1929, M.S., 1931, Ph.D., 1935, Virginia. **C** Thomas Jefferson's contribution to agriculture. **D** 12, 1, 7.

WARDWELL, Allen, 15 Broad St., New York City. (1912)

WARDWELL, Charles Annsson Randlett, U. S. Dept. of Com., Bur. of For. and Dom. Com., Washington, D.C. (1929) **A** Bur. of For. and Dom. Com., Current Bus. Anal. Unit, R.A. **B** B.S., 1920, M.A., 1922, PhD., 1927, Pennsylvania. **C** An investigation of economic data for major cycles. **D** 5, 4, 10. **E** Total monthly business inventories; total retail sales of goods and services; total consumer credit outstanding.

WARING, Frank Arnold, U. S. Tariff Com., Washington, D.C. (1935) **A** U. S. Tariff Com., adviser on Latin Amer. trade prob., RA. **B** B.S., 1924, M.A., 1930, Ph.D., 1933, California. **C** A history of Mexican banking. **D** 8, 7, 9. **E** Current trade problems in the Western Hemisphere; commercial policy of European possessions in the Caribbean area. **F** Co-author, Silverware (U. S. Tariff Com., 1940); joint author, The foreign trade of Latin America (U. S. Tariff Com., 1940); Latin America as a source of strategic and other essential materials (U. S. Tariff Com., 1941). **G** S.

WARNE, Frank Julian, 1520 H St., N.W., Washington, D.C. (1915) **A** R. **B** M.A., 1898, Ph.D., 1902, Pennsylvania. **C** Labor conditions in the anthracite coal fields. **D** 4, 20, 14. **F** The coal mine workers (Longmans, Green, 1905); The tide of immigration (Appleton, 1915); The workers at war (Century, 1918). **G** WSIE.

WARNER, Donald A., 18 Charles St., New York City. (1942)

§WARNER, Philip John, 15 E. 26th St., New York City. (1911)

WARNER, Robert Keeler, 37 Trumbull St., New Haven, Conn. (1932) **A** Consulting mining engr., R. **B** Ph.B., 1911, Engr. of Mines, 1921, Yale. **D** 13, 1, 17. **F** "Metal resources, their conservation," J.P.E., Apr., 1936; "Weighing new offerings of mining securities," Engr. and Mining Jour., Oct., Dec., 1935; Selection of a mining system (Trans. Amer. Inst. Mining and Met. Engrs., 1933).

WARNER, Wellman Joel, Dickinson Col., Carlisle, Pa. (1935) **A** Dickinson Col., Soc. Sci., chmn., prof. of soc., TR. **B** B.A., 1921, George Washington; B.D., 1924, Yale; Ph.D., 1929, London School of Econ. **C** A study of the Industrial Revolution in England (pub. as The Wesleyan movement in the Industrial Revolution, Longmans, Green, 1930). **D** 10, 3, 18. **E** Public policy and economic practice. **G** S.

WARREN, Robert B., Inst. for Advanced Study, Princeton, N.J. (1941) **A** Inst. for Advanced Study, R. **B** A.B., 1912, Hamilton; A.M., 1916, Harvard. **D** 7, 2, 19. **F** The state in society (with Henry Clay and Leo Wolman) (Oxford Univ. Press, 1940); The search for financial security (Columbia Univ. Press, 1940). **G** WS.

WARRINGTON, William Edward, Univ. of Pennsylvania, 209 Logan Hall, Philadelphia, Pa. (1935) **A** Univ. of Pennsylvania, Wharton School, asso. prof., T. **B** B.S., 1915, M.A., 1916, Ph.D., 1932, Pennsylvania. **C** Nature and extent of losses to bondholders in corporate reorganization, 1919-28. **D** 9, 7, 10. **F** The business corporation (with E. S. Mead and D. B. Jeremiah) (Appleton-Century, 1941).

WARTERS, Dennis Noel, Bankers Life Co., 711 High St., Des Moines, Iowa. (1934) **A** Bankers Life Co., vice-pres. and actuary, AB. **B** B.A., 1917, Manitoba; F.A.S., 1921, Actuarial Soc. of Amer. **D** 9, 18, 4.

WATERS, Lawrence Leslie, 1629 Alabama, Lawrence, Kan. (1937) **A** Atchison, Topeka, and Santa Fe Ry., Dept. of Pub. Rela., R; Univ. of Kansas, asst. prof. of fin., T. **B** B.S., 1935, Central Missouri State Teachers Col.; A.M., 1936, Ph.D., 1939, Illinois. **C** Interstate barriers to trade. **D** 9, 6, 14. **E** History of the Atchison, Topeka, and Santa Fe Ry. **F** Use taxes: their legal and economic background (Univ. of Kansas, Bur. of Bus. Res., 1940); "Liquor control and the commerce clause," 1940, "Transient Mexican agricultural labor," 1941, Southwestern Soc. Sci. Quar.

WATERS, R(ichard) Hadly, 226 Adams Ave., State College, Pa. (1938) **A** Pennsylvania State

Col., asst. prof., T. **B** B.S., 1928, A.M., 1929, Ph.D., 1937, Pennsylvania. **C** Competition in transportation (privately pub.). **D** 1, 14, 4. **E** Collaborator, economic growth and fluctuations in Pa. correlated with those of the U. S. (to be pub. in Pennsylvania State Col. Studies, 1942). **F** Contributor, Pennsylvania Business Survey (Pennsylvania State Col., 1939 ff.).

WATKINS, Gordon S., Univ. of California at Los Angeles, Los Angeles, Calif. (1917) **A** Univ. of California at Los Angeles, Col. of Letters and Science, dean, prof. of econ., TRA. **B** A.B., 1914, LL.D., 1940, Montana; A.M., 1915, Illinois; Ph.D., 1918, Pennsylvania. **C** Survey of the revenue system of Delaware County, Pennsylvania (Flanigan-Pearson, Champaign, 1918). **D** 17, 3, 1. **E** History of economic reform movements. **F** Labor problems and labor administration in the United States during the World War (Univ. of Illinois Press, 1920); Labor problems (with Paul A. Dodd) (Crowell, 3rd ed., 1941); Management of labor relations (with Paul A. Dodd) (McGraw-Hill, 1938). **G** WSE.

WATKINS, John Brownson, 405 Wesley Ave., Oak Park, Ill. (1923)

WATKINS, Leonard Lyon, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1922) **A** Univ. of Michigan, prof., T. **B** B.A., 1916, M.A., 1917, Texas; Ph.D., 1926, Michigan. **C** Banker's balances (A. W. Shaw, 1929). **D** 7, 8, 6. **E** Some aspects of war finance. **F** Commercial banking reform in the United States (mono., Michigan School of Bus. Admin., 1937). **G** WS.

WATKINS, Myron Webster, Dept. of Justice, Antitrust Div., Washington, D.C. (1915) **A Antitrust Div., expert, R;** New York Univ., prof., T. **B** A.B., 1914, Michigan; Ph.D., 1917, Cornell. **C** The work of Jean Baptiste Say. **D** 10, 11, 1. **E** Analyses of specific, strategic industries; organization of industrial control. **F** Industrial combinations and public policy (Houghton Mifflin, 1927); Public regulation of competitive practices (N.I.C.B., rev. 1940); Government and economic life (Brookings, 1939). **G** WSE.

WATKINS, Ralph James, Nat. Res. Plan. Bd., Washington, D.C. (1923). **A** Nat. Res. Plan. Bd., asst. dir., A. **B** B.B.A., 1921, B.A., 1922, Texas; M.S., 1924, Ph.D., 1927, Columbia. **C** The construction industry in Ohio (Ohio State Univ., Bur. of Bus. Res., 1927). **D** 1, 3, 10. **E** Transportation and national policy. **F** Economics of the iron and steel industry (McGraw-Hill, 1937); Energy resources and national policy (1939). Transportation and national policy (1942) (G.P.O.). **G** WSE.

WATROUS, George Dutton, Jr., U. S. Tariff Com., Washington, D.C. (1924) **A** U. S. Tariff Com., econ., R. **B** Ph.B., 1916, LL.B., 1920, Yale. **D** 4, 8, 15. **G** S.

WATSON, Donald Stevenson, George Washington Univ., Washington, D.C. (1939) **A** George Washington Univ., asst. prof. of econ., T. **B** B.A., 1930, British Columbia; Ph.D., 1935, California. **C** Public control of the electric power industry in Germany prior to 1933. **D** 10, 3, 1. **E** Inquiry into the nature, forms, and methods of economic policy. **F** Government spending and economic expansion (with A. E. Burns) (Amer. Coun. on Pub. Affairs, 1940).

WATSON, J(ames) Donald, 720 Park Ave., South Bend, Ind. (1933) **A** T. **B** B.A., 1926, Reed; M.B.A., 1931, Michigan; C.L.U., 1940, Amer. Col. of Life Underwriters; Ph.D., 1941, Northwestern. **C** State auditing in Indiana. **D** 9, 4, 10. **F** Business mathematics, Workbook for business mathematics (Ronald Press, 1937).

WATSON, Jesse Paul, Univ. of Pittsburgh, Pittsburgh, Pa. (1929) **A** Univ. of Pittsburgh, prof. of econ., Bur. of Bus. Res., acting dir., TRA. **B** B.A., 1922, M.A., 1924, Texas; Ph.D., 1929, Brookings. **C** Soundings in the general property tax system of Ohio (mimeo., Ohio Inst., Nov., 1929). **D** 16, 14, 10. **E** Business activity in Pittsburgh district. **F** The Bureau of the Mint (Brookings, 1926); The city real estate tax in Pittsburgh (Univ. of Pittsburgh, 1934); co-author, Energy resources and national policy (Nat. Res. Com., 1939). **G** S.

WATSON, Merrill Armstrong, 100 Gold St., New York City. (1936) **A** Tanners Coun., exec. vice-pres. **B** B.B.A., 1926, Boston Univ.; M.B.A., 1928, Harvard; D.C.S., 1942, New York. **C** Economics of the cattlehide leather industries. **D** 11, 4, 5.

WATSON, William Newton, Utah State Col., School of Com., Logan, Utah. (1942) **A** Utah State Col., asst. prof., T. **B** B.S., 1933, B.A., 1937, Alberta; M.A., 1940. Columbia. **D** 6, 1, 7.

WATT, John Reid, 1220 Boren Ave., Seattle, Wash. (1941)

WATT, Robert W., R.R. 3, Plainfield, N.J. (1942)

WATTS, Fred G., 217 W. Midland, Shawnee, Okla. (1940)

WATTS, V(ervon) Orval, Los Angeles Chamber of Com., Los Angeles, Calif. (1937) **A** Los Angeles Chamber of Com., econ. coun., R. **B** B.A., 1918, Manitoba; A.M., 1923, Ph.D., 1932, Harvard. **C** The development of the technological concept of production. **D** 10, 17, 8. **E** Economic reconstruction after the war. **F** Why are we so prosperous? (Burgess Pub. Co., Minneapolis, 1938); "Technics and civilization," Jour. of Soc. Phil., 1936. **G** W.

WAUGH, Albert E., Storrs, Conn. (1928) **A** Univ. of Connecticut, Dept. of Econ., head, T. **B** B.S., 1924, Massachusetts State Col.; M.S., 1926, Connecticut; grad. work, 1925, Columbia, 1931-32, 1942, Chicago. **D** 1, 4, 19. **F** Elements of statistical method, Laboratory manual for statistics (McGraw-Hill, 1938); "Elasticity of demand from budget studies," Q.J.E., Nov., 1932. **G** SE.

WEAVER, Donald Vincent, 1701 Massachusetts Ave., N.W., Washington, D.C. (1929)

‡**WEBB, Sidney** (Lord Passfield) Passfield Corner, Liphook, Hants., England. (1929)

WEBBINK, Paul, 3319 Tennyson St., N.W., Washington, D.C. (1939) **A War Manpower Com., Plan. Div., spec. consultant, A;** S.S.R.C., staff member, R. **B** A.B., 1925, Michigan; grad. work, Brookings. **D** 18, 17, 10. **G** S.

WEBER, Adna Ferrin, 85-21 114th St., Richmond Hill, N.Y. (1896) **A** Retired. **B** Ph.B., 1894, Cornell; Ph.D., 1899, Columbia. **C** The growth of cities in the nineteenth century (Macmillan, 1899). **D** 20, 16, 14. **G** WS.

WEBER, (Mrs.) Emily Barrows, 21 Carolina Rd., Douglaston, L.I., N.Y. (1928) **B** A.B., 1925, Mount Holyoke; M.A., 1927, Chicago. **D** 17, 18, 19.

WEBER, Georges Minch, 6 Wetherill Rd., Friendship Sta., Washington, D.C. (1923)

WEBER, Gustavus Adolphus, 6 Wetherill Rd., Friendship Sta., Washington, D.C. (1893)

WEBER, Orlando F., 61 Broadway, New York City. (1937)

WEBER, Paul J., Hercules Powder Co., Delaware Trust Bldg., Wilmington, Del. (1930)

WEHRWEIN, Carl Frederick, 705 N. Overlook Dr., Alexandria, Va. (1936) **A WPB, sr. bus. anal., R. B** B.S.A., 1915, M.S.A., 1928, Ph.D., 1930, Wisconsin. **C** The agricultural ladder in two unlike Wisconsin regions (Jour. of Land and Pub. Util. Econ., Vols. IV, VI, VII). **D** 16, 6, 1. **F** "Taxes and the consumer," A.E.R., Mar., 1938; "Some aspects of the double taxation problem," J.P.E., Aug., 1936.

WEHRWEIN, George Simon, Univ. of Wisconsin, Agric. Hall, Madison, Wis. (1917) **A** Univ. of Wisconsin, prof., TR. **B** B.S., 1913, M.S., 1920, Ph.D., 1922. Wisconsin. **C** Land ownership and tenure in the United States. **D** 15, 16. **E** Land utilization and zoning in the cutover region; land utilization in the rural-urban fringe. **F** Co-author, Conservation of our natural resources (1930), Land economics (with R. T. Ely) (1940) (Macmillan). **G** WSE.

WEIDLER, Walter Crothers, Ohio State Univ., Columbus, Ohio. (1922)

WEINER, Clarence M., 1417 N St., N.W., Washington, D.C. (1942) **A** Bur. of Employ. Sec., Reports and Anal. Div., Sup. and Demand Anal. Unit, chief, R. **B** B.A., M.A., 1934, Wisconsin. **D** 17, 20, 4. **E** Estimates of labor requirements, 1941-43, by industry and sex; employment of negroes in war production. **F** Co-author, "The employment of women in war production," Soc. Sec. Bul., July, 1942; "Estimating the potential expansion of the

female labor force in urban areas," Soc. Sec. Bul., July, 1942.

WEINFELD, William, 716 13th Ave., S.E., Minneapolis, Minn. (1940) **A Univ. of Minnesota, Income Study, asso. dir., R. B** B.E.E., 1929, Northeastern, Boston; A.B., 1933, M.A., 1936, Minnesota. **D** 19, 4. **E** Factors determining the distribution of income by size (Univ. of Minnesota income study). **F** Minnesota income, 1938-39 (Minn. Resources Com., June, 1942); "The field survey of the Minnesota income study," in Survey of studies of the distribution of income by size (Nat. Bur. of Econ. Res., in press).

WEINSTEIN, A. H., 1650 Lee Rd., Cleveland Hghts., Ohio. (1942)

WEINTRAUB, David, 6615 5th St., N.W., Washington, D.C. (1936) **A WPB, Inventory and Requisitioning Br., Program Plan. Sec., econ adviser, RA;** R. **B** B.S., 1928, City of New York; M.A., 1932, Columbia. **D** 17, 11, 18. **E** Re-employment opportunities and recent changes in industrial techniques. **F** Contributor to monographs on technological change and unemployment (WPA, 1936-41). **G** S.

WEINTRAUB, Sidney, 2500 Q St., N.W., Washington, D.C. (1941) **A U. S. Treas., econ., R;** T. **B** B.C.S., 1935, Ph.D., 1941, New York. **C** Monopoly and the economic system. **D** 1, 7, 5. **E** Elements of the theory of monopoly and competition. **F** "Monopoly equilibrium and anticipated demand," J.P.E., June, 1942; "Triffin's classification of market positions: comment," Q.J.E., Aug., 1942; Foundations of the demand curve," A.E.R., to appear Sept., 1942.

WEINWURM, Ernest H., 565 W. 215th St., New York City. (1941) **A** New York Univ., res. asst., R. **B** Dr. Law and Soc. Sci., 1920, Univ. of Vienna. **D** 7, 8, 4. **E** French short-term capital movements.

WEISENFELD, Albert Harold, 4 S. Pinehurst Ave., New York City. (1939) **A** Dentist. **B** B.S., 1934, M.A., 1937, D.D.S., 1941, Columbia. **D** 1, 17.

WEISMAN, Russell, Western Reserve Univ., Cleveland, Ohio. (1920)

WEISS, Francis Joseph, 66 Ellison St., N.E., Washington, D.C. (1940) **A** Nat. Plan. Asso., res. asso., R. **B** Ph.D., 1924, Sc.D., 1928, Univ. of Vienna. **C** Dehydrationes Catalyticae Substantiarum Organicarum (Ph.D.); Grundlagen der Volkswirtschaftpolitik (Sc.D.) (Mainz, Vienna, 1929). **D** 1, 16, 11. **E** Economic development of Alaska; utilization of waste products. **F** Economic chemistry (Chamber of Commerce Pub., Vienna, 1930); The statistical problems of hail insurance (Paris, 1937); "Opportunities for chemical industries in Alaska," Chem. and Met. Engr., Sept., 1941.

WEISS, Franz X., 18 West Way, Petts Wood, Kent, England. (1928)

WEISS, George, J. S. Bache and Co., 36 Wall St., New York City. (1924)

WEISS, Harry, 330 Ryder Rd., Munsey Pk., Manhasset, L.I., N.Y. (1939) **A** U. S. Dept. of Labor, Wage and Hour Div., chief econ., R. **B** B.A., 1929, Pittsburgh; Ph.D., 1933, Wisconsin. **C** The development of workmen's compensation legislation in the United States. **D** 17, 18, 10. **E** Fair Labor Standards Act; wage and hour control in wartime.

WEISSKOPF, Walter Albert, Univ. of Omaha, Omaha, Neb. (1939) **A** Univ. of Omaha, asst. prof., T. **B** Dr. Juris., 1927, Univ. of Vienna. **D** 17, 1, 5. **E** Elements of labor economics; a restatement of the theory of wages and employment. **F** "Protection of freedom of work and speech and collective labor agreements," Gerichtszeitung (Vienna), 1930; "Problems of wage and workingtime reduction," Zeitschrift für soziales Recht (Vienna), 1931; "Conciliation and arbitration," Juristische Blätter (Vienna), 1937.

WEISSMAN, Rudolph L., 61 Broadway, New York City (1936) **A** Heartt and Weissman, partner, B; New School for Soc. Res., member of faculty. **B** LL.B., 1922, Brooklyn Law School. **D** 9, 8, 6. **E** John Stuart Mill and his influence. **F** The new Federal Reserve System (1936), The new Wall Street (1939), editor, Economic balance and a balanced budget (1940) (Harper),

WEITZ, Leo, 1225 Ave. R, Brooklyn, N.Y. (1940) **A** Girls Commercial High School, Dept. of Soc. Studies, chmn., TA. **B** B.S.S., 1928, City of New York; M.A., 1932, Columbia. **D** 18, 6, 17. **E** Family allowances as a postwar measure. **F** Co-author, editor, Revising our tax structure—a study of proposals affecting New York State and New York City (mono., N. Y. City Bd. of Educa., Com. on Tax., 1941).

WELCH, Emmett H., 4703 Chestnut St., Bethesda, Md. (1942) **A** U. S. Bur. of Labor Statis., Occupa. Outlook Div., chief, R. **B** B.S., 1928, Denver; M.A., 1930, Pittsburgh; grad. work, 1930-33, Pennsylvania. **D** 17, 18, 20. **E** Labor market analysis in connection with the war production program. **F** Unemployment monographs (Univ. of Pennsylvania, Ind. Res. Dept., 1930-35); Monthly and annual reports on unemployment relief and public assistance (Pa. Dept. of Pub. Assist., 1933-40); Occupational trends in Philadelphia (Pa. Dept. of Labor and Ind., 1934).

WELCH, Ronald Burton, 4907 Crescent St., Crestview, Md., via Friedship Sta., D.C. (1931) **A** Bd. of Investigation and Res., dir. of tax studies, R. **B** B.A., 1928, Doane; Ph.D., 1932, Yale. **C** State and local taxation of banks in the United States (pub. as Special Report 7, N. Y. State Tax Com., 1934). **D** 6, 10, 14. **E** Appraisal of buildings for property tax purposes; taxation of carriers. **F** Tax limits appraised (with A. M. Hillhouse) (Pub. Admin. Serv., 1937); Urban land appraisal (Nat. Asso. of Assessing Officers, 1940). **G** S.

WELD, Louis D. H., 50 Rockefeller Plaza, New York City. (1910)

WELD, William Ernest, Wells Col., Aurora, N.Y. (1921) **A** Wells Col., pres., A. **B** A.B., 1903, LL.D., 1927, Wooster; A.M., 1909, Princeton Theological Sem.; Ph.D., 1920, Columbia. **C** India's demand for transportation. **D** 3, 8, 14. **G** WSI.

WELDEN, William C., Farm Credit Admin., Coop. Res. and Serv. Div., Washington, D.C. (1939)

WELFLING, Weldon W., Pickett Rd., Durham, N.C. (1936) **A OPA, sr. bus. spec., RA;** Duke Univ., asst. prof., T. **B** A.B., 1933, Swarthmore; M.A., 1935, Ph.D., 1938, Princeton. **C** Savings banking in New York State (Duke Univ. Press, 1939). **D** 7, 6, 5. **E** Pig iron; coke, and iron ore industries. **F** "Some characteristics of savings deposits," A.E.R., Dec., 1940; "Defense activity and the coke industry," S.E.J., 1942.

WELK, William George, U. S. Tariff Com., Washington, D.C. (1934) **A** U. S. Tariff Com., sr. com. policy anal., R. **B** Doctor of Econ., 1928, Royal Univ. of Trieste, Italy; M.A., 1932, Ph.D., 1933, Harvard. **C** The Italian corporate state: an economist's analysis of the Italian experiment. **D** 8, 3, 10. **E** French commercial policy and foreign trade, 1919-41; international economic relations. **F** Fascist economic policy (Harvard Univ. Press, 1938); Italian commercial policy and foreign trade, 1922-40 (U. S. Tariff Com., 1941); "League sanctions and foreign trade restrictions in Italy," A.E.R., Mar., 1937. **G** S.

WELLINGTON, C(harles) Oliver, 111 Broadway, New York City. (1912)

WELLMAN, Hiller Crowell, City Library, Springfield, Mass. (1908) **A** City Library, librarian. **B** A.B., 1894, Harvard. **D** 19, 17, 9. **G** WE.

WELLS, Charles Conner, 135 S. LaSalle St., Chicago, Ill. (1937)

WELLS, Herman B, Indiana Univ., Bloomington, Ind. (1930)

WELSH, Edward Cristy, Ohio State Univ., Econ. Dept., Columbus, Ohio. (1935)

WELSH, Lee Mayer, Procter and Gamble Co., Gwynne Bldg., Cincinnati, Ohio. (1934) **A** Procter and Gamble Co., statis., B. **B** Com. Engr., 1926, Cincinnati. **D** 4, 5, 9

WENDT, Edwin Frederick, Union Trust Bldg., Pittsburgh, Pa. (1915) **A** Consulting engr., B. **B** A.B., 1888, D.S., 1913, Geneva. **D** 14, 1. **F** "Federal valuation of railroads," Proceedings, Amer. Railway Engr. Asso., 1940. **G** W.

WENDT, Paul Francis, Maryville Col., Maryville, Tenn. (1940) **A WPB, econ. ind. anal., R;** T. **B** B.S., 1928, Lafayette; M.A., 1935, Ph.D., 1941.

Columbia. C The classification and financial experience of the customers of a typical New York stock exchange firm, 1933-38 (Edwards Bros., 1941). D 16, 10, 17. E Economic and social planning in Blount Co., Tenn.; effect of the F.L.S.A. in 1938 in E. Tenn. F "Who wins in Wall Street," Barron's, 1942; "Six months planning in a defense area," Tenn. State Planner, 1942.

WENDZEL, Julius T., 4525 18th St., N., Arlington, Va. (1929)

WENNSTROM, John Mauritz, 102 Maiden Lane, New York City. (1940) A Christiania Gen. Ins. Corp., pres., A. B Civ. Engr., 1902, Poly. Inst., Univ. of Zurich, Switzerland. D 9. G W.

WENTWORTH, (Mrs.) Edna Clark, Soc. Sec. Bd., Equitable Bldg., Room 812, Baltimore, Md. (1934) A Soc. Sec. Bd., asso. soc. sci. anal., R. B Ph.B., 1920, M.A., 1922, Chicago; Ph.D., 1941, Washington Univ. C Filipino plantation workers in Hawaii: a study of incomes, expenditures, and living standards of Filipino families on an Hawaiian sugar plantation (Amer. Coun. Inst. of Pacific Rela., 1941). D 19, 17. E Resources of beneficiaries of the old-age and survivors insurance program. F Changing uses of textiles in clothing and household articles (U. S. Dept. of Agric., 1929).

WENTWORTH, Edward Norris, Armour's Livestock Bur., U. S. Yards, Chicago, Ill. (1924) A Armour's Livestock Bur., dir., RAB. B B.S., 1907, M.S., 1909, Iowa State Col.; M.S., 1908, Cornell. D 15. E Commercial history of the sheep industry. G W.

WENZLICK, Roy, 915 Olive St., St. Louis, Mo. (1938) A Real Estate Anal., Inc., pres., R.A. B A.B., 1916, Westminster; Ph.D., 1942, St. Louis. C Urban rents, their fluctuations and implications. D 16, 5, 13. E Real estate and construction. F The real estate analyst (Real Estate Anal., Inc., 1932, ff.); Coming boom in real estate (Simon and Schuster, 1936). G W.

WERMEL, Michael Theodore, Soc. Sec. Bd., Bur. of Old-Age and Survivors Ins., Equitable Bldg., Baltimore, Md. (1936) A Soc. Sec. Bd., Anal. Div., Econ. Anal. Sec., Econ. Studies Unit, chief; U. S. Dept. of Agric., Grad. School, instr. in econ.; American Univ., lecturer in econ.; TRA. B B.S., 1931, New York; M.S., 1932, Ph.D., 1939, Columbia. C The evolution of the classical wage theory (Columbia Univ. Press, 1939). D 17, 18, 1. E Patterns of wage and employment experience of workers; wage and employment experience of young worker; taxable wages under the old-age and survivors insurance system; national income estimates. F "Movement of workers into and out of covered employment" (with M. G. Murray), Feb., 1941, "Insured status under old-age and survivors insurance" (with B. Mandel), Nov., 1941, Soc. Sec. Bul. G S.

WERMUTH, Robert Paul, 1444 Lunt Ave., Chicago, Ill. (1940)

WERNETTE, J(ohn) Philip, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1927) A Harvard Univ., asso. prof., TR. B A.B., 1924, California; A.M., 1926, Southern California; A.M., 1929, Ph.D., 1932, Harvard. C Branch banking in California. D 5, 12, 1. E Postwar America. F Money, business, and prices (P. S. King and Son, 1933); The control of business cycles (Farrar and Rinehart, 1940).

WEST, C. H., Box 152, Sunol, Calif. (1926)

WEST, Miriam Esther, New Jersey Col. for Women, New Brunswick, N.J. (1927)

WEST, Robert James, Westinghouse E. and M. Co., East Pittsburgh, Pa. (1936) A Westinghouse E. and M. Co., market development, B. B B.S., 1931, M.S., 1933, Illinois; Ph.D., 1941, Pittsburgh. C The relationship between business cycles in Great Britain and the United States as indicated by ratios of moving averages. D 5, 12, 14.

WEST, Robert Rout, Box 1554, University, Va. (1941) A **War Dept., consultant to Secy. of War, A;** Univ. of Virginia, Bur. of Ind. Res., dir., R. B A.B., 1915, Harvard. D 13, 17, 11. G W.

WESTERFIELD, Ray Bert, Yale Sta., New Haven, Conn. (1912) A Yale Univ., prof., TR. B B.A., 1907, Sc.D. (Hon.), 1935, Ohio Northern; Ph.D., 1913, Yale. C Origin of middlemen in English business. D 7, 8, 12. E Revision of Money, credit, and banking; book on investment banking. F Money, credit, and banking (1938), Banking principles and practice (rev. 1928) (Ronald Press); Branch banking (Harper, 1942). G WSIE.

WESTON, Janet Louise, 915 W. Springfield, Champaign, Ill. (1940)

WESTON, John Frederick, Univ. of Chicago, School of Bus., Chicago, Ill. (1941) A Univ. of Chicago, teaching asst., TR. B A.B., 1934, M.B.A., 1942, Chicago. D 9, 6, 7. E Financing the war; investment banking; business taxation.

WEYFORTH, William Oswald, Johns Hopkins Univ., Baltimore, Md. (1915) A Johns Hopkins Univ., asso. prof. of polit. econ., TR. B A.B., 1912, Ph.D., 1915, Johns Hopkins. C The organizability of labor (Johns Hopkins Press, 1917). D 7, 5, 8. E Development of the national banking system; theory of industrial fluctuations. F The Federal Reserve Board (mono., Johns Hopkins Press, 1933). G S.

WHALEN, Oren L., 208 W. Washington, Urbana, Ill. (1925)

WHALEY, Otis, Henderson State Teachers Col. Dept. of Econ. and Bus. Admin., Arkadelphia, Ark. (1938)

WHEELER, Bayard O., U. S. Bur. of Labor Statis., 3312 White Bldg., Seattle, Wash. (1937) **A U. S. Bur. of Labor Statis., price econ., RA; OPA consultant.** B A.B., 1928, Ph.D., 1942, California; M.A., 1930, Univ. of Washington. C The structure and behavior of Douglar fir lumber prices. D 11, 5, 19. E Price and production policies of the Douglas fir lumber industry in World War II; economic costs of Grand Coulee project. F "The production and distribution of Bonneville power," Jour. of Land and Pub. Util. Econ., Nov., 1939; "Douglas fir lumber prices," Timberman, July, 1941.

WHEELER, Oliver P., Fed. Res. Bank, San Francisco, Calif. (1937) A Fed. Res. Bank of San Francisco, dir. of res., RA. B A.B., 1920, Stanford. D 6, 7, 10.

WHELAN, Carl Joseph, 3600 S St., N.W., Washington, D.C. (1929)

WHELPTON, Pascal Kidder, Scripps Found., Oxford, Ohio. (1920) A Scripps Found. for Res. in Population Prob., asso. dir., R. B B.S., 1915, Cornell. D 20, 4, 15. E Social and psychological factors affecting human fertility. F Needed population research (Science Press, 1938); Population trends in the United States (with Warren S. Thompson) (McGraw-Hill, 1932); "Future population of the United States," Jour. of Amer. Statis. Asso., 1936. G WS.

WHITAKER, Albert Conser, Box 995, Stanford University, Calif. (1902) A Stanford Univ., prof. emeritus, T. B A.B., 1899, Stanford; Ph.D., 1904, Columbia. C The labor theory of value in English political economy (Columbia Univ. Press). D 9, 8, 7. F Foreign exchange (Appleton-Century, rev. 1933). G W.S.

WHITAKER, Benjamin Palmer, Union Col., Schenectady, N.Y. (1925) A Union Col., prof. of econ., T. B A.B., 1921, Colgate; M.A., 1925, Ph.D., 1931, Yale. C Gross earnings as the basis of taxation of corporate enterprises. D 6, 9, 7. E Fiscal procedures and administrative organization of state of Ill. F Report of Connecticut Special Tax Commission (1935), Report of Connecticut Special Commission on Reorganization of State Departments (1937) (State of Conn.). G S.

WHITE, Charles P., Univ. of Tennessee, School of Com., Knoxville, Tenn. (1924)

WHITE, E(mmett) Lamar, 1670 N. Longfellow, Arlington, Va. (1942) **A BEW, asst. econ. anal., RA.** B B.S., 1938, Alabama Poly. Inst. D 8, 14, 10.

WHITE, Horace Glenn, Jr., 4838 W St., N.W., Washington, D.C. (1935) **A U. S. Dept. of State, sr. div. asst., R;** Blakiston Co., editorial consultant, B. B A.B., 1933, A.M., 1934, Wesleyan; Ph.D., 1940, Cornell. C Foreign trading in American stock exchange securities (pub. in abridged form in J.P.E., 1940). D 8, 10, 7. E International control

of raw materials. **F** "Blocked commercial balances in American foreign policy," A.E.R., Mar., 1939; "A review of monopolistic and imperfect competition theories," A.ER., Dec., 1936.

WHITE, Wilford Lenfestey, 3131 Nebraska Ave., N.W., Washington, D.C. (1922) **A** U. S. Dept. of Com., Reg. Res. Unit, chief, A; George Washington Univ., prof. lecturer in market. **B** B.A., 1920, Univ. of Colorado; M.B.A., 1921, D.C.S., 1929, Harvard. **C** Co-operative retail buying associations (McGraw-Hill, 1930). **D** 12, 19, 11. **F** Chain store wages (Fed. Trade Com., 1933). **G** WS.

WHITMAN, Roswell Hartson, 1940 Biltmore St., N.W., Washington, D.C. (1934) **A OPA, asso. price exec., A. B** A.B., 1928, Colgate; Ph.D., 1933, Chicago. **C** Statistical investigations in the demand for iron and steel. **D** 11, 4. **F** "Problem of statistical demand for techniques for producer's goods," J.P.E., 1934; "Statistical law of demand for a producer's goods as illustrated by the demand for steel," Econometrica, 1936; "Demand functions for merchandise at retail," in Studies in mathematical economics and econometrics (Univ. of Chicago Press, 1942). **G** S.

WHITMAN, William Tate, The Citadel, Charleston, S.C. (1940)

WHITNEY, Nathaniel Ruggles, Box 292, Glendale, Ohio. (1911) **A** Procter and Gamble Co., econ. **B** A.B., 1906, Gettysburg; Ph.D., 1913, Johns Hopkins. **C** Jurisdiction in American building trades unions (Johns Hopkins Press). **D** 11, 4, 5. **F** Banking practice (Ronald Press, 1920); The sale of war bonds in Iowa (Univ. of Iowa, State Hist. Soc., 1921). **G** W.

WHITNEY, Simon Newcomb, Deep Springs, Calif. (1927) **A** Deep Springs School, dir., TRA. **B** B.A., 1924, Ph.D., 1931, Yale. **C** Trade associations and competition. **D** 8, 10, 6. **F** Trade associations and industrial control (Central Book Co., 1934).

WHITRIGHT, Gerald Maxwell, 3131 N. Pershing Dr., Arlington, Va. (1938) **A** U. S. News, econ., writer, R. **B** B.A., 1924, Wisconsin. **D** 1, 5, 4. **E** Development and recent changes in U. S. gov. corporations and credit agencies. **F** Salaries and hours of labor in municipal police (and fire) departments, July 1, 1938 (U. S. Dept. of Labor, Bur. of Labor Statis., 2 ser., 1941).

WHITSETT, James M., Cleveland Col., Cleveland, Ohio (1937) **A** Cleveland Col., asst. prof., TR. **B** B.A., 1926, Texas; M.A., 1928, Ph.D., 1938, Ohio State. **C** Banking operations in Ohio, 1920-40 (Ohio State Univ., 1941). **D** 7, 5, 1. **F** Ohio bank suspensions and liquidations, 1920-37 (Ohio State Univ., Bur. of Bus. Res., 1938).

WHITTEN, William M., 2308 McDonough Rd., Wilmington, Del. (1942)

WHITTLESEY, Charles Raymond, 340 Avonbrook Rd., Wallingford, Pa. (1925) **A** Univ. of Pennsylvania, prof. **B** A.B., 1921, Philomath; A.M., 1924, American Univ. of Beirut; Ph.D., 1928, Princeton. **C** Governmental control of crude rubber: Stevenson Plan (Princeton Univ. Press, 1930). **D** 7, 8. **E** Recent banking developments in the U. S. **F** International monetary issues (McGraw-Hill, 1937). **G** SE.

WICHMAN, Arthur Adolf, 215 W. 1st North St., Jackson, Mo. (1941)

WIEDEMAN, Harold C., 122 Greenway Blvd., Falls Church, Va. (1942) **A U. S. Civil Serv. Com., sr. rev. and negotiations officer, A;** Univ. of Denver, asst. prof. of statis., TR. **B** B.S., 1934, Buffalo; M.S., 1939, Denver. **D** 4, 5, 1. **F** State income taxation (1939), Real estate vacancies in Denver (1941), Business activity in Colorado (1937) (Univ. of Denver Reports).

WIERS, Paul, 213 Albany Ave., Takoma Park, Md. (1939) **A WPB, Statis. Div., sr. econ., R. B** B.S., 1929, M.A., 1931, Michigan. **D** 4, 8, 5. **E** Cyclical aspects of international trade (doctoral dissertation, nearing completion).

WIESEN, Thomas F., 2216 Broadway, Lubbock, Tex. (1939) **A** Texas Tech. Col., asso. prof., T. **B** B.S., 1920, Texas A. and M.; M.B.A., 1935, Pennsylvania. **D** 8, 14, 12. **E** Japanese competition in the foreign markets of the U. S. (doctoral dissertation).

WIESENFELD, Henry M., 3023 St. Paul St., Baltimore, Md. (1928)

WIEST, Edward, Univ. of Kentucky, Lexington, Ky. (1916) **A** Univ. of Kentucky, Col. of Com., dean, TA. **B** A.B., 1912, George Washington; A.M., 1913, Ph.D., 1916, Columbia. **C** The butter industry in the United States (Columbia Univ. Press, 1916). **D** 1, 7, 10. **F** Agricultural organization in the United States (Univ. of Kentucky, 1923); "Territorial basis of education," School and Soc., Mar. 4, 1922; "Monetary policy proposals," Modern Bus. Educa., Jan., 1935. **G** WS.

WIGHTMAN, Guy J., Dairymen's League Co-op. Asso., 11 W. 42nd St., New York City. (1941) **A** Dairymen's League Co-op. Asso., statis., B. **B** B.S., 1922, Pennsylvania. **D** 4, 12, 19.

WILBER, Allen S., F. S. Crofts and Co., 101 5th Ave., New York City. (1928)

WILCOX, Clair, Swarthmore Col., Swarthmore, Pa. (1923) **A OPA, Iron and Steel Br., price exec., A;** Swarthmore Col., prof. of econ., T. **B** B.S., 1919, Ph.D., 1927, Pennsylvania; M.A., 1922, Ohio State. **C** Parole of adults from state penal institutions (Pa. State Parole Com., 1927). **D** 10, 11, 18. **E** Economics of inequality. **F** Competition and monopoly in American industry (TNEC, 1940); "Merit rating in state unemployment compensation laws," A.E.R., June, 1937; "State organization for penal administration," Jour. of Crim. Law and Crim., 1931. **G** SE.

WILCOX, Sidney Warren, U. S. Bur. of Labor Statis., Washington, D.C. (1920) **A** U. S. Bur. of Labor Statis., chief statis., TRA. **B** B.L., 1905, California. **D** 4, 17. **G** S.

WILCOX, Walter William, Iowa State Col., Dept. of Econ., Ames, Iowa. (1941) **A** Iowa State Col., prof., TR. **B** B.S., 1928, Iowa State Col.; M.S., 1930, Illinois; Ph.D., 1938, Harvard. **C** Heterogeneity within type-of-farming areas in Iowa and its significance. **D** 15, 19, 2. **E** Effect of agricultural programs on use of and income from Iowa's resources. **F** "Economic aspects of soil conservation," J.P.E., Oct., 1938. **G** S.

WILEY, Jay Wilson, Purdue Univ., 106 Recitation Bldg., Lafayette, Ind. (1937)

WILLCOX, Walter Francis, 3 South Ave., Ithaca, N.Y. (1892)

WILLETT, Edward F., 235 Crescent St., Northampton, Mass. (1938) **A** Smith Col., Econ. Dept., asst. prof., T. **B** A.B., 1924, M.A., 1936, Ph.D., 1939, Princeton. **C** The Federal Securities Act of 1933. **D** 9, 8, 4. **F** Coal, iron and steel in Europe (privately pub., 1928); articles on "business, production and trade, public finance, financial review, railroads," in Nat. Yearbook, Colliers, 1940, 1941. **G** S.

WILLIAMS, Alfred Hector, 925 Chestnut St., Philadelphia, Pa. (1921) **A** Fed. Res. Bank of Philadelphia, pres., A. **B** B.S., 1915, A.M., 1916, Ph.D., 1924, Pennsylvania. **D** 6, 7, 8. **G** W.

WILLIAMS, Conway Scott, 20 Spring St., Westerly, R.I. (1940) **A** Nat. Asso. of Hos. Mfrs., chief statis., B. **B** A.B., 1934, M.S., 1935, Columbia. **D** 1, 3. 16. **E** Postwar planning of transportation. **F** N.E.M.A. statistics—what they are and how to use them (Nat. Elec. Mfrs. Asso., 1941); Quar. Statis. Bul. (Nat. Asso. of Hos. Mfrs., 1941-42).

WILLIAMS, Faith Moors, U. S. Dept. of Labor, Bur. of Labor Statis., Washington, D.C. (1925)

WILLIAMS, John Burr, 30 Lowell Rd., Wellesley Hills, Mass. (1939) **A** B. **B** S.B., 1923, M.B.A., 1925, M.A., 1935, Ph.D., 1940, Harvard. **C** The theory of investment value (Harvard Univ. Press, 1938). **D** 9, 6, 5. **E** Speculation in the stock market; economic disequilibrium. **F** "Speculation and the carryover," Q.J.E., 1936; "Does inflation boost dividends?" Barron's, 1941.

WILLIAMS, John Henry, Harvard Univ., Littauer Center, Cambridge, Mass. (1919) **A** Harvard Univ., Grad. School of Pub. Admin., dean, prof. of econ., TA. **B** A.B., 1912, Brown; A.M., 1916, Ph.D., 1919, Harvard. **C** Argentine international trade under inconvertible paper money (Harvard Univ., Press, 1920). **D** 7, 6, 5. **F** "Deficit spend-

ing," Feb., 1941, "The changing position of the banking system and its implications for monetary policy," Mar. Sup., 1942, "The adequacy of existing currency mechanisms under varying circumstances," Mar. Sup., 1937, A.E.R. **G** WSIE.

WILLIAMS, Kenneth Burdg, 6515 Summit Ave., Chevy Chase, Md. (1937) **A** Fed. Res. Sys., Bd. of Gov., econ., R. **B** A.B., 1932, Stanford; M.A., 1937, George Washington. **D** 17, 4, 5. **G** S.

WILLIAMS, Roger Henry, 40 Wall St., New York City. (1913) **A** Estabrook and Co., investment banking, partner, B. **B** Ph.B., 1895, Cornell; M.A., 1903, Yale; LL.B., 1912, J.D., 1913, New York. **D** 9, 7, 8. **G** W.

WILLIAMS, Whiting, 3030 Euclid Ave., Cleveland, Ohio. (1942) **A** Consultant and writer in ind. rela., B; Factory Manage. and Main., consulting editor. **B** A.B., 1899, M.A., 1909, Oberlin. **D** 17, 3, 1. **F** What's on the worker's mind? (1920), Mainsprings of men (1925) (Scribner's). **G** W.

WILLIAMSON, Harold Francis, 593 Yale Sta., New Haven, Conn. (1935) **A** Yale Univ., asst. prof., T. **B** A.B., 1924, M.A., 1927, Southern California; Ph.D., 1935, Harvard. **C** Edward Atkinson—biography of American liberal (Riverside Press, 1935). **D** 2, 7, 11. **E** American banking development, 1830-65. **F** The American carpet industry (Harvard Univ. Press, 1941). **G** S.

WILLIAMSON, Kossuth Mayer, Wesleyan Sta., Middletown, Conn. (1920) **A** Wesleyan Univ., prof., T. **B** A.B., 1913, Alabama; A.M., 1916, Ph.D., 1920, Harvard. **C** Taxation of distilled spirits. **D** 6, 1, 8. **F** "State taxes on savings deposits in New England," A.E.R., Mar., 1928. **G** WS.

WILLIAMSON, Mary Lydia, 207 Kenan Hall, Chapel Hill, N.C. (1942)

WILLIAMSON, William Rulon, 3400 Fairhill Dr., Anacostia, D.C. (1942) **A** Soc. Sec. Bd., actuarial consultant, R. **B** B.A., 1909, M.A., 1910, Wesleyan Univ. **D** 18, 9, 6. **E** Costs under social insurance; relation of private and social insurance; quantitative aspects of relief, pensions, unemployment benefits. **F** "Social Budgeting," Proceedings, Casualty Actuarial Soc., 1938; "The Social Security Act of 1935" (with Otto Richter), 1935 "Selection" (with Otto Richter), 1942, Transactions of the Actuarial Soc. of Amer. **G** W.

WILLIGMAN, (Mrs.) Margaret L., Univ. of Cincinnati, Cincinnati, Ohio. (1940)

WILLIS, J(ohn) Brooke, Columbia Univ., 514 School of Bus., New York City. (1933) **A** Columbia Univ., lecturer in banking. T. **B** A.B., 1930, Dartmouth; B.S. (Engr.), 1932, M.S. (Bus.), 1933, Columbia. **D** 7, 9, 6. **E** Banking and money market studies; functions of the commercial banking system (doctoral dissertation).

WILLIT, Virgil, 2220 Abington Rd., Columbus, Ohio. (1941) **A** Ohio State Univ., asso. prof., TA. **B** A.B., 1921, Otterbein; M.A., 1924, Ph.D., 1930, Ohio State. **C** The federal land banks. **D** 7, 8, 3. **E** Building and loan field in the U.S. since 1920. **F** Chain, group, and branch banking (Wilson, 1930). **G** S.

WILLITS, Joseph Henry, 49 W. 49th St., New York City. (1919) **A** Rockefeller Found., dir. for soc. sci. **B** A.B., 1911, A.M., 1912, Swarthmore; Ph.D., 1916, Pennsylvania. **C** The unemployed in Philadelphia. **D** 17. **G** WSI.

WILLS, John H., 42 Hawthorne Ave., Princeton, N.J. (1940)

WILMOT, William Vernon, Jr., Room 4218, ICC Bldg., Washington, D.C. (1942) **A** ODT, Motor Transp. Div., asso. econ.; Univ. of Wisconsin, grad. asst., T. **B** A.B., 1937, A.M., 1939, Syracuse. **D** 1, 14, 4.

WILSON, David Stevens, 1428 Penn Ave., Wilkinsburg, Pa. (1941) **A** Westinghouse E. and M. Co., econ. res., R. **B** A.B., 1931, Utah; M.B.A., 1932, Northwestern. **D** 5, 10, 7.

WILSON, Edwin Bidwell, 55 Shattuck St., Boston, Mass. (1912) **A** Harvard Univ., School of Pub. Health, prof., TR. **B** A.B., 1899, Harvard; Ph.D. (Geometry), 1901, Yale. **D** 20, 4, 1. **E** Statistical method; epidemiology. **F** "Periodogram of American business activity," Q.J.E., 1934; "Laws of population growth" (with Ruth Puffer), Proceedings, Amer. Acad. Arts. Sci., 1933. **G** WSIE.

WILSON, Elizabeth Webb, 1 Waterhouse St., Cambridge, Mass. (1929) **B** A.B., 1917, George Washington; A.M., 1920, Ph.D., 1934, Radcliffe. **C** Distribution of disability costs. **D** 9, 18, 4. **E** Health insurance in U.S. **G** W.

WILSON, Howard W., Reservoir Ave., R.F.D. 1, Olneyville Sta., Johnston, R.I. (1929)

WILSON, Milburn Lincoln, 14 Rosemary St., Chevy Chase, Md. (1920) **A** U. S. Dept. of Agric., Ext. Serv., dir.; Fed. Sec. Agency, Office of Defense Health and Welfare Serv., Nutrition Div., asst. dir. **B** B.S.A., 1907, Iowa State Col.; M.S., 1920, Wisconsin. **D** 15, 19, 1. **G** WSI.

WILSON, Walter Clark, 54½ Pleasant St., Waterville, Me. (1940) **A** Colby Col., instr., T. **B** A.B., 1931, Nevada; A.M., 1933, Ph.D., 1939, Clark Univ. **C** A financial history of Worcester, Mass. **D** 6, 2, 10. **E** Yield and burdens of Del. state income tax, 1936.

WIMSATT, Genevieve Beckwith, 3721 Alton Pl., N.W., Washington, D.C. (1941) **A** U. S. Bur. of For. and Dom. Com., asso. econ., R. **B** A.B, 1931, MA., 1932, George Washington. **D** 11, 19, 4. **E** Operating cost ratios of independent retail stores. **F** Concentration of production in manufacturing (TNEC Mono. 27, Pt. V, 1941).

WINGATE, John Williams, New York Univ., Washington Sq. E., New York City. (1929) **A** New York Univ., prof. of merchandising, T. **B** A.B., 1921, Carleton; M.S., 1923, D.C.S., 1931, New York. **C** Retail merchandise control (Prentice-Hall, 1933). **D** 12, 11, 19. **E** Who's who of 250 leading department and specialty stores of the country. **F** Buying for retail stores (with N. A. Brisco) (1937), Elements of retail merchandising (with N. A. Brisco) (1938) (Prentice-Hall); Fundamentals of selling (with R. Walters) (South-Western, 1942).

WINN, Willis Jay, Hillside, W. 254th St. and Independence Ave., Riverdale, New York City. (1941) **A** Nat. Bur. of Econ. Res., fin. res. staff member, R. **B** M.A., 1940, Pennsylvania. **D** 7, 6, 9.

WINSLOW, Earle Micajah, U. S. Tariff Com., Washington, D.C. (1923)

WINSLOW, Harry Jackson, 202 E. Glenbrook Rd., Bethesda, Md. (1942) **A Dept. of Agric., Grad. School, part-time teaching;** Nat. Res. Plan. Bd., prin. statis., TR. **B** B.S., 1925, M.S., 1926, Minnesota. **D** 4, 18, 20. **E** Techniques for segregating seasonal variations from employment and labor turnover statistics; methods for estimating benefit payments for various benefit formula specifications (unemployment insurance). **F** "Effect of a shortened waiting period on unemployment benefit costs," Soc. Sec. Bul., Vol. 2, No. 1, 1939; Estimates of covered labor force, covered employment, taxable wage, and taxes collectible (Soc. Sec. Bd., Bur. of Res. and Statis., Aug., 1937).

WINSLOW, Rex Shelton, Chapel Hill, N.C. (1942) **A** Univ. of North Carolina, prof., TRA. **B** A.B., 1923, Simpson; A.M., 1929, Illinois; Ph.D., 1936, North Carolina. **C** Types of approach found in recent American economic literature with emphasis on the organic and pragmatic. **D** 1, 10, 3. **F** "Some problems of conflict," in Economic problems in a changing world (Farrar and Rinehart, 1938). **G** S.

WINSTON, Ambrose Pare, 808 W. 32nd St., Austin, Tex. (1901) **A** Univ. of Texas, prof., T. **B** B.A., 1887, Wisconsin; Ph.D., 1900, Cornell. **C** Ideals of trade unions. **D** 8, 11, 1. **E** Industrial combinations.

WINTERS, Robert Alonzo, 140 Nichols St., Lewiston, Me. (1937) **A OPA, asso. econ., A;** Bates Col., instr., T. **B** A.B., 1935, Princeton; M.A., 1937, Tufts; M.A., 1941 Harvard. **D** 17, 1, 8. **E** Labor relations in the building industry (doctoral dissertation).

WINTERSEA, Cyrus, 8801 Jeffries Ave., Cleveland, Ohio. (1942)

WINTON, Hildreth T., 23 Mayhew Ave., Larchmont, N.Y. (1932)

WITCOVER, Henry W., Post Quartermaster, Fort Jackson, S.C. (1941)

WITHERS, William Herbert, 350 E. 54th St.,

New York City. (1928) **A** Queens Col., Dept. of Econ., chmn., asso. prof., TA. **B** A.B., 1926, A.M., 1928, Ph.D., 1932, Columbia. **C** Retirement of national debts (Columbia Univ. Press, 1932). **D** 6, 18, 10. **E** Public finance text. **F** Financing economic security (Columbia Univ. Press, 1939). **G** WSE.

WITTE, Edwin E., 1609 Madison St., Madison, Wis. (1920) **A WLB, Soc. Sec. Bd., consultant;** Univ. of Wisconsin, prof. of econ., TR. **B** B.A., 1909, Ph.D., 1927, Wisconsin. **C** Injunctions in labor disputes. **D** 18, 17, 10. **E** History of social security in the U.S. **F** The government in labor disputes (McGraw-Hill, 1932); "Old-age security in the Social Security Act," J.P.E., Feb., 1937; "Injunctions in labor disputes in the United States," Int. Labor Rev., Mar., 1930. **G** WS.

WITTE, Ernest Frederic, Univ. of Washington, Seattle, Wash. (1931) **A** Univ. of Washington, prof., TA. **B** B.S.B.A., 1925, M.A., 1926, Nebraska; Ph.D., 1932, Chicago. **C** Organization, administration, and control of chain drug stores. **D** 18, 17, 19. **E** Public welfare administration. **F** Final report of the Nebraska Emergency Relief Administration (Neb. Emergency Relief Admin., 1938); Purchasing policies and practices of chain drug companies (Univ. of Chicago Press, 1933); Training probation and parole officers (Amer. Prison Asso., 1941).

WOERNER, Kurt, 266 S. 21st St., Philadelphia, Pa. (1937)

WOLF, Harry DeMerle, Chapel Hill, N.C. (1926) **A** Univ. of North Carolina, prof. of econ. **B** B.S., 1921, Kansas State Teachers Col., Emporia; M.A., 1922, Ph.D., 1926, Chicago. **C** The Railroad Labor Board (Univ. of Chicago Press, 1927). **D** 17, 18, 1.

WOLF, Ronald H., 1203½ N. 45th St., Seattle, Wash. (1941)

WOLFARD, John Addison, Whitman Col., Walla Walla, Wash. (1942) **A** Whitman Col., asst. prof. of econ., T. **B** B.A., 1936, M.A., 1937, Univ. of Washington; Ph.D., 1942, Wisconsin. **C** Stabilization of employment and earnings. **D** 1, 17, 3. **E** Stabilization of employment and earnings.

WOLFE, Albert Benedict, Ohio State Univ., Columbus, Ohio. (1905) **A** Ohio State Univ., prof. of econ., TR. **B** A.B., 1902, A.M., 1903, Ph.D., 1905, Harvard. **C** The lodging house problem in Boston. **D** 1, 20, 3. **E** Principles of social economy; capital accumulation and production expansion. **F** Conservatism, radicalism, and scientic method (Macmillan, 1923); "The fecundity and fertility of early man," Human Biology, Feb., 1933; "Full utilization, equilibrium and the expansion of production," Q.J.E., Aug., 1940. **G** WSE.

WOLFE, French Eugene, Procter and Gamble Co., Econ. Res. Dept., Cincinnati, Ohio. (1912) **A** Procter and Gamble Co., econ.; Univ. of Cincinnati, lecturer, TRB. **B** A.B., 1907, Emory and Henry; Ph.D., 1912, Johns Hopkins. **C** Admission to American trade unions. **D** 1, 4, 9. **E** Price changes of fats and oils, and of feedstuffs. **F** "Factor elimination method of deriving a coefficient of net determination," Jour. of Amer. Statis. Asso., 1935; Principles of property insurance (Crowell, 1930).

WOLFF, Reinhold Paul, Univ. of Miami, Coral Gables, Fla. (1938) **A** Univ. of Miami, asst. prof. of econ., T. **B** Pol. Sc. D., 1920, Univ. of Freiburg. **C** Adaptation of wages to increased cost of living. **D** 11, 12, 10. **E** Monopolistic competition in distributive trades. **G** S.

WOLFSON, Theresa, 810 E. 19th St., Brooklyn, N.Y. (1930) **A** Brooklyn Col., asso. prof., T. **B** B.A., 1917, Adelphi; M.A., 1922, Columbia; Ph.D., 1926, Brookings. **C** The woman worker and the trade union (Int. Pub.). **D** 17, 18, 3. **E** Techniques in mediation and arbitration. **F** Co-author, Frances Wright (Harper, 1940). **G** S.

WOLKISER, Arthur M., 120 Broadway, New York City. (1935)

WOLLMAN, Nathaniel, Colorado Col., Colorado Springs, Colo. (1938) **A** Colorado Col., asst. prof., T. **B** A.B., 1936, Pennsylvania State Col.; Ph.D., 1940, Princeton. **C** Concept of the market. **D** 1, 7, 10.

WOLMAN, Abel, Johns Hopkins Univ., Baltimore, Md. (1924) **A** Johns Hopkins Univ., prof. of sanitary engr. **B** B.A., 1913, B.S.E., 1915, Dr. Engr. (Hon.), 1937, Johns Hopkins. **G** WS.

WOLMAN, Leo, 1819 Broadway, New York City. (1915) **A** Columbia Univ., prof., TR. **B** A.B., 1911, Ph.D., 1914, Johns Hopkins. **C** Boycott in American trade unions (Johns Hopkins Press, 1916). **D** 17, 10, 5. **E** American wages since the Civil War; labor relations. **F** Growth of American trade unions, 1880-1923 (1924). Ebb and flow in trade unionism (1936) (Nat. Bur. of Econ. Res.); contributor, State in society (Oxford Press, 1940). **G** WSE.

WOOD, (Mrs.) Edith Elmer, Cape May Ct. House, N.J. (1942) **A** Fed. Pub. Housing Auth., consultant. **B** B.L., 1890, Smith; M.A., 1917, Ph.D., 1919, Columbia. **C** The housing of the unskilled wage earner (Macmillan, 1919). **D** 16, 19. **E** Housing action report to form part of Southeastern regional development plans, Atlanta Field Office, Nat. Res. Plan. Bd. **F** Housing progress in western Europe (Dutton, 1923); Recent trends in American housing (Macmillan, 1931). **G** W.

WOOD, Elmer, Univ. of Missouri, Columbia, Mo. (1931) **A Export Price Control Div., prin. econ., A;** Univ. of Missouri, prof. of econ., TR. **B** A.B., 1916, Missouri; A.M., 1930, Princeton; Ph.D., 1937, Harvard. **D** 7, 1, 8. **E** Central banking procedures and the operation of the gold standard during the second half of the nineteenth century. **F** English theories of central banking control (Harvard Econ. Studies, 1939). **G** S.

WOOD, Ramsay, 6617 Poplar Ave., Takoma Park, Md. (1939) **A** Fed. Res. Sys., Bd. of Gov., jr. econ., R. **B** M.A., 1936, Columbia. **D** 11, 19, 10. **E** War construction and implications for postwar period; demand theory for a planned economy (doctoral dissertation).

WOOD, Richard Harvey, 36 Edwards Pl., Princeton, N.J. (1942) **A Princeton Univ., instr., T. B** A.B., 1930, Princeton. **D** 17, 9, 5. **E** Effect of recent developments on the profit sharing plans of the Eastman Kodak Co., the Procter and Gamble Co., and Sears, Roebuck and Co. (doctoral dissertation).

WOODBRIDGE, Frederick Wells, Univ. of Southern California, Los Angeles, Calif. (1939) **A** Univ. of Southern California, Acctg. Dept., head, prof., TRA. **B** B.B.A., 1922, M.B.A., 1923, Univ. of Washington. **D** 4, 9. **F** Elements of accounting (Ronald Press, 1925); A system of accounting procedure for live stock ranches (Univ. of Texas, Bur. of Bus. Res., 1930); "Time as a factor in debt-paying ability," Acctg. Rev., 1939.

WOODBURY, Robert Morse, Int. Labour Office, 3480 University St., Montreal, Canada. (1912) **A** Int. Labour Office, statis. adviser, member of sec., R. **B** A.B., 1910, A.M., 1912, Clark Univ.; Ph.D., 1915, Cornell. **C** Social insurance: an economic analysis (Holt, 1917). **D** 19, 20, 17. **E** International comparisons of costs of living. **F** Infant mortality and its causes (Williams and Wilkins, 1926); Workers health and safety (Macmillan, 1927); International comparisons of food costs (Int. Labour Office, 1941). **G** WS.

WOODRUFF, Ruth Jackson, Durham, N.H. (1935) **A** Univ. of New Hampshire, dean of women, asso. prof., TA. **B** A.B., 1919, M.A., 1920, Bryn Mawr; Ph.D., 1931, Radcliffe. **C** The American hosiery industry. **D** 2, 1, 8. **E** Recent history of the American hosiery industry. **F** The hosiery industry (mono., White Williams Found., 1925); "Determinants of college success," Jour. of Higher Educa., Dec., 1940.

WOODS, Robert M., St Mary's Col., Winona, Minn. (1940)

WOODWARD, Charles Guilford, 742 Asylum Ave., Hartford, Conn. (1913) **A** Conn. Gen. Life Ins. Co., vice-chmn., fin. com.; New London Northern R.R. Co., vice-pres.; Hartford State Savings Bank, vice-pres.; Trinity Col., trustee, secy. of Bd. of Trustees; B. **B** A.B., 1898, A.M., 1901, Trinity Col. **D** 9, 7, 14. **F** A common carrier of the South before and during the Civil War—the South Western Railroad Company (Ry. and Locomotive Hist. Soc. Bul. 44); History of New

London Willimantic Railroad Company (privately pub., 1941).

WOODWORTH, G(eorge) Walter, Dartmouth Col., Amos Tuck School, Hanover, N.H. (1928) **A** Dartmouth Col., prof. of banking and statis., T. **B** A.B., 1924, Kansas Wesleyan; A.M., 1925, Kansas; Ph.D., 1932, Michigan. **C** The Detroit money market (Univ. of Michigan, 1932). **D** 7, 4, 5. **F** Principles of money and banking (with R. D. Kilborne) (McGraw-Hill, 1937).

WOODWORTH, Leo Day, University Club, Washington, D.C. (1918) **A** Fed. Works Agency, WPA, R. **B** A.B., 1899, Albion. **D** 6, 3, 4. **E** Effect of the war on state and local finance; fiscal capacity, extent, form, and distribution. **F** Realty tax delinquency (2 vols., Bur. of the Census, Nat. Tax. Asso. Proc., 1934); editor, contributor, Staff Studies (Mich. Tax Study Com., 1939); State tax collections, monthly, 1942 (Nat. Tax. Asso. Bul., 1942).

WOOLLY, Herbert Ballantyne, 13A Ware St., Cambridge, Mass. (1942)

WOOSLEY, John Brooks, Chapel Hill, N.C. (1927) **A** Univ. of North Carolina, prof., TR. **B** A.B., 1912, Guilford; A.B., 1913, A.M., 1914, Haverford; Ph.D., 1931, Chicago. **C** State taxation of banks (Univ. of North Carolina Press, 1936). **D** 7, 9, 5. **F** "Permanent plan for insurance of deposits," 1936, "Differential elements in North Carolina banking," 1939, "The capital problem of small and medium sized businesses," 1941, S.E.J. **G** S.

WOOSTER, Harvey Alden, 79 S. Cedar St., Oberlin, Ohio. (1911)

WORKING, Elmer Joseph, Univ. of Illinois, Dept. of Agric. Econ., Urbana, Ill. (1922)

WORKING, Holbrook, Food. Res. Inst., Stanford University, Calif. (1915) **A** Food Res. Inst., econ., prof., TR. **B** A.B., 1915, Denver; A.M., 1919, Cornell; Ph.D., 1921, Wisconsin. **C** Effect of price changes upon production and consumption of wheat. **D** 11, 4, 1. **E** Tendencies in the distribution of expenditures of American families among various categories of consumption, with special reference to food. **F** Factors determining the price of potatoes in St. Paul and Minneapolis (Univ. of Minnesota Agric. Exp. Sta., Oct., 1922); Cycles in wheat prices (Nov., 1931), Wheat futures prices and trading at Liverpool since 1886 (with Sidney Hoos) (Nov., 1938) (Wheat Studies of Food Res. Inst.). **G** S.

WORLEY, Frederick Milton, Univ. of Pennsylvania, Fin. Dept., Philadelphia, Pa. (1942) **A** Univ. of Pennsylvania, instr., T. **B** B.S., 1921, A.M., 1924, Pennsylvania. **D** 7, 1, 5.

WORMSER, Felix Edgar, 420 Lexington Ave., New York City. (1924)

WORSLEY, Thomas Blanchard, 722 Jackson Pl., N.W., Washington, D.C. (1941) **A** OPA, asso. bus. econ., R. **B** B.S., 1933, M.S., 1934, Virginia. **D** 15, 7, 1. **E** Prices, costs, and profits in cotton textile field; stimulation of domestic cotton consumption (doctoral dissertation).

WORTHING, Marion Witherbee, 1020 19th St., N.W., Washington, D.C. (1936) **A** Nat. Res. Plan. Bd., econ., R. **B** B.A., 1931, Wisconsin; M.A., 1933, Pittsburgh. **D** 13, 11, 4. **E** Location problems of the iron and steel industry. **F** "Assembly costs for working pig iron," Pittsburgh Bur. Rev., 1938; Indexes of mill net yields on steel products (U. S. Steel Corp., 1940).

WOYTINSKY, Wladimir, 5036 Massachusetts Ave., N.W., Washington, D.C. (1939) **A** Soc. Sec. Bd., prin. consulting econ., RA. **D** 4, 18, 20. **E** National income and social security; economic perspectives, 1942-46. **F** Labor in the United States (1938), Three aspects of labor dynamics (1942), National income and social security (1942) (S.S.R.C.). **G** S.

WRIGHT, Charles Conrad, Bridgewater, Va. (1929) **A** Bridgewater Col., dean, prof. of econ., TA. **B** B.A., 1918, Bridgewater; M.A., 1923, Columbia; Ph.D., 1930, Virginia. **C** Development of railroad transportation in Virginia. **D** 1, 6. 7. **G** S.

WRIGHT, Chester Whitney, Univ. of Chicago, Chicago, Ill. (1904)

WRIGHT, David McCord, 3 Dawson's Row, Univ. of Virginia, Charlottesville, Va. (1939) **A** Univ. of Virginia, asst. prof., T. **B** LL.B., 1935, Virginia; M.A., 1939, Ph.D., 1940, Harvard. **C** The creation of purchasing power (Harvard Univ. Press, 1942). **D** 5, 6, 7. **F** "Economic limit and economic burden of the national debt," Q.J.E., Nov., 1940.

WRIGHT, Helen R., 5807 Dorchester Ave., Chicago, Ill. (1936)

WRIGHT, Henry Gilbert, 222 W. Adams St., Chicago, Ill. (1926) **A** Delta Sigma Pi, grand secy.-treas., B.

WRIGHT, Ivan, Niagara-on-the-Lake, Ont., Canada. (1921)

WRIGHT, John W., 429 Whittier St., N.W., Washington, D.C. (1931) **A** U. S. Dept. of Agric., prin. econ., RA. **B** B.S., 1917, Utah State Col.; M.S., 1933, Ph.D., 1938, American. **C** Producer's markets for cotton—an economic appraisal. **D** 12, 15, 4. **E** Market outlets for cotton of specific qualities. **F** The distribution of American cotton (1937), Marketing practices in producer's markets (1938), Mill consumption in relation to cotton improvement (1941) (U. S. Dept. of Agric.). **G** S.

WRIGHT, Leslie, 1204 W. California St., Urbana, Ill. (1941)

WRIGHT, Wallace, 713 8th St., Ames, Iowa. (1931) **A** Iowa State Col., prof., T. **B** A.B., 1919, Dartmouth; M.A., 1924, Ph.D., 1930, Stanford. **C** Concentration of banking control in the United States. **D** 7, 6, 1. **G** S.

WRIGHT, Wilson, Armstrong Cork Co., Lancaster, Pa. (1941) **A** Armstrong Cork Co., econ., RAB. **B** A.B., 1930, Dartmouth. **D** 1, 5, 11. **E** Pricing policy; postwar corporate organization; corporate principles of management (manual for executives); general economic trends and changes.

WUELLER, Paul Hahn, 600 Locust Lane, State College, Pa. (1937) **A** Pennsylvania State Col., asso. prof. of econ.; Soc. Sec. Bd., prin. consulting econ.; TR. **B** B.S., 1929, Ph.D., 1932, Columbia. **C** Fiscal integration in Germany (Columbia Univ. Press, 1933). **D** 6, 1. **E** Possible determinants of variable ratio grants-in-aid. **F** "Concepts of taxable income," Polit. Sci. Quar., Mar., Dec., 1938, Dec., 1939; "Public finance: trends and issues," Harvard Bus. Rev., 1941; Income and the measurement of the relative capacities of the states (Studies in Income and Wealth, Nat. Bur. of Econ. Res., 1939). **G** S.

WUNDER, Charles S., 945 Union Trust Bldg., Pittsburgh, Pa. (1934)

WUNDERLICH, Frieda, New School for Soc. Res., 66 W. 12th St., New York City. (1938) **A** New School for Soc. Res., Grad. Faculty, prof., TR. **B** Ph.D., 1920, Univ. of Freiburg, Germany. **C** Hugo Muensterberg's Bedeutung für die Nationalökonomie (G. Fischer, Jena, 1920). **D** 17, 18, 19. **E** Labor camps in Germany (1918-39); farm labor in Germany (1918-39). **F** Producktivität (1927), Bekampfung der Arbeitslosigkeit in Deutschland (1926) (G. Fischer; Jena); Labor under German democracy (New School, 1939).

WYCKOFF, Vertrees Judson, Univ. of Maryland, College Park, Md. (1940) **A** U. S. Dept. of Com., econ., R; Univ. of Maryland, asso. prof., TR. **B** A.B., 1920, Ph.D., 1923, Johns Hopkins. **C** Wage policies of labor organizations in a period of industrial depression (Johns Hopkins Studies, 1926). **D** 6, 14, 2. **E** Theory and practice of tax classification; financial aspects of publicly owned utilities. **F** Tobacco regulation in colonial Maryland (Johns Hopkins Press, 1936); "An analysis of the tax resources of selected states," Taxes, Feb., 1942; Some observations on state tax research (Nat. Tax Asso. Bul., Mar., 1942. **G** S.

WYNNE, William Harris, 507 E. Thornapple St., Chevy Chase, Md. (1926) **A** Nat. Res. Plan. Bd., prin. econ.; T. **B** B.A., 1919, M.A., 1920, Queen's Univ.; Ph.D., 1926, Cambridge Univ.; Barrister-at-law, 1933, Gray's Inn, London. **C** The development of land policy in Australia (summarized in Jour. of Land and Pub. Util. Econ., Oct., 1926, Feb., 1927). **D** 6, 8, 10. **E** Foreign bondholders and state insolvency (with E. M. Borchard); wartime industry and postwar readjustment (Nat. Res. Plan. Bd.). **F** Studies in Canadian taxation (Nat. Tax

Asso. Bul., Oct., 1940, Jan., Dec., 1941, Jan., 1942); "The French Franc, June, 1928-Feb., 1937," J.P.E., Aug., 1937; "Foreign bondholders protective organizations," Yale Law Jour., Dec., 1933.

WYTHE, George, Cosmos Club, Washington, D.C. (1933) **A** U. S. Dept. of Com., liaison officer. **B** B.A., 1914, Texas; Ph.D., 1938, George Washington. **C** Brazil's recent foreign economic policy (Summary, George Washington Univ.). **D** 8, 2, 3. **E** Industry and nationalism in Latin America. **F** "New industrialism in Latin America," J.P.E., Apr., 1937. **G** W.

YAGER, Joseph Arthur, 2513 14th St., N.E., Washington, D.C. (1941) **A OPA, asso. econ., R. B** A.B., 1937, LL.B., 1939, A.M., 1940, Michigan. **D** 5, 10, 1.

YAGODA, Gertrude, 4117 7th St., N.W., Washington, D.C. (1941) **A OPA, bus. econ., RB. B** A.B., 1938, M.A., 1940, Brooklyn. **D** 20, 11, 2. **E** Migration of labor into Minn., from census data.

YEAGER, Harold C., 330 W. 42nd St., New York City. (1941)

YNTEMA, Dwight B., 5609 Roosevelt Ave., Bethesda, Md. (1936) **A** U.S. Dept. of Com., Bur. of For. and Dom. Com., Nat. Income Unit, asst. chief. **B** A.B., 1926, Hope; A.M., 1927, Ph.D., 1932, Michigan. **C** The measurement of inequality in the personal distribution of wealth or income (Jour. of Amer. Statis. Asso., Dec., 1933). **D** 1, 4, 18. **E** Survey of composition of decedent estates and their size distribution; review of measures of inequality in distribution of income; national income measurement. **F** "Changing seasonal fluctuations in the amounts of public and private assistance or earnings on CWA and WPA projects in 116 urban areas, 1929-38," Jour. of Amer. Statis. Asso., Dec., 1940; "National income exceeds 76 billion dollars in 1940" (with Milton Gilbert), in Survey of current business (Dept. of Com., June, 1941).

YNTEMA, Theodore Otte, Univ. of Chicago, Chicago, Ill. (1925) **A War Ship. Admin., asst. to deputy admin.;** Univ. of Chicago, prof., Cowles Com., dir. of res. **B** Ph.D., 1929, Chicago; C.P.A., 1924, Illinois. **C** Mathematical reformulation of general theory of international trade (Univ. of Chicago Press, 1930). **D** 4, 10, 11. **E** Price controls and rationing; theory of sampling. **F** "The future role of large-scale enterprise," J.P.E., Dec., 1941; director of research report in TNEC Papers, Vol. I, U. S. Steel Corp. (U. S. Steel Corp., 1940). **G** WS.

YOCUM, James Carleton, Ohio State Univ., Bur. of Bus. Res., Columbus, Ohio. (1942) **A** Ohio State Univ., asst. dir. of market. res., RA. **B** B.S., 1930, M.A., 1932, Ohio State; grad. work, Columbia. **D** 12, 10, 4. **E** Indexes of Ohio retail trade; statistical data measuring the Ohio consumer market. **F** Expenditures and apparel buying habits, Advertising facilities of newspapers, Problems of retail distribution under N.R.A. (Ohio State Univ., Bur. of Bus. Res.); collaborator, Drug store management (McGraw-Hill, 1941).

YODER, Dale, Univ. of Minnesota, Minneapolis, Minn. (1934) **A** Univ. of Minnesota, prof. of econ. and ind. rela., TR. **B** B.A., 1923, James Millikin; M.A., 1926, Ph.D., 1929, Iowa. **C** Labor attitudes in Iowa and contiguous territory (Iowa City, Bur. of Bus. Res., 1929). **D** 17, 4. **E** Labor market analysis; measurement of labor supplies and demands. **F** Labor economics and labor problems (McGraw-Hill, rev. 1939); Personnel and labor relations (Prentice-Hall, rev. 1942). **G** WSE.

YOST, John W., Industry Service Bureaus, 53 Park Pl., New York City. (1940)

YOUNG, Arthur Nichols, 1725 Chelsea Rd., San Marino, Calif. (1911)

YOUNG, B. F., New York Tel. Co., 140 West St., New York City. (1924)

YOUNG, Burton Owen, 317 N. Thomas St., Arlington, Va. (1942) **A** Nat. Housing Agency, sr. econ. anal., RA. **B** A.B., 1930, Oberlin; M.A., 1935, Univ. of Colorado; M.P.A., 1941, Harvard. **D** 16, 10, 5. **E** Business cycle control in Sweden, 1929-39; cycles in housing. **F** The development of legal protection for investors (Univ. of Colorado Studies, 1936).

YOUNG, Elmer Richard, Brooklyn Col., Brooklyn, N.Y. (1938) **A** Brooklyn Col., instr., T. **B** B.S., 1936, M.S., 1937, Utah. **D** 4, 14, 1. **F** An analysis of the salary practices of the state of Utah (Investigating Com. of Utah Gov. Units, Dec., 1936).

YOUNG, Forrest Albert, Macalester Col., St. Paul, Minn. (1927) **A** Macalester Col., dept. chmn., prof., T. **B** B.S., 1922, Monmouth; A.M., 1926, Chicago; Ph.D., 1938, Iowa. **C** Repercussions on the economic system of the Great Plains region of Kansas of the mechanization of agriculture (abstract in Univ. of Iowa Studies No. 397). **D** 12, 1, 15. **F** Applied economics (Macalester Econ. Press, 1936). **G** S.

YOUNG, John Parke, 6 East West Hwy., Chevy Chase, Md. (1919) **A BEW, For. Trade Opera., Amer. Hemisphere Office, chief, A;** Occidental Col., Dept. of Econ., chmn., prof., TR. **B** A.B., 1917, Occidental; A.M., 1919, Columbia. A.M., 1920, Ph.D., 1922, Princeton. **C** Central American currency and finance (Princeton Univ. Press, 1925). **D** 8, 7. **F** European currency and finance (2 vols., G.P.O., 1925); International trade and finance (Ronald Press, 1938). **G** WSE.

YOUNG, Ralph Aubrey, Moylan and Orchard Ave., Moylan, Pa. (1929) **A Nat. Bur. of Econ. Res., Fin. Res. Program, dir., R;** Univ. of Pennsylvania, Dept. of Econ., chmn., prof., T. **B** A.B., 1923, Ohio Wesleyan; M.B.A., 1925, Northwestern; Ph.D., 1930, Pennsylvania. **C** The international financial position of the United States (Nat. Ind. Conf. Bd., 1929). **D** 7, 1, 4. **E** Consumer installment financing project; business financing project; war financing project; investment credit project. **F** Personal finance companies and their credit standards (1940), co-author, Sales finance companies and their credit standards (1941) (Nat. Bur. of Econ. Res.). **G** S.

YOUNGMAN, Anna Prichett, Westchester Apts., 3900 Cathedral Ave., Washington, D.C. (1909)

ZASSENHAUS, Herbert K., 1703 Washington St., Huntingdon, Pa. (1938) **A** Juniata Col., asst. prof., T. **B** Dipl. rer. pol., 1932, Univ. of Bonn, Germany; Dr. rer. pol., 1934, Univ. of Berne, Switzerland. **C** On the pure theory of cost and supply. **D** 1, 5, 2.

ZAVOICO, Basil B., 18 Pine St., New York City. (1940) **A** Chase Nat. Bank, geologist, petroleum engr., R. **B** B.S., 1924, M.I.T. **D** 13, 9.

ZELOMEK, A. Wilbert, 39 5th Ave., New York City. (1930) **A WPB, Div. of Purchases, spec. adviser; OPA, consultant;** Int. Statis. Bur., Inc., pres.; Fairchild Publications, econ.; B. **B** B.S., 1922, Pennsylvania. **D** 11, 19, 8. **F** This peculiar war (Int. Statis. Bur., Inc., 1940); American business in a changing world (Whittlesey House, 1941).

ZEMPEL, Arnold, Washington Univ., St. Louis, Mo. (1933) **A** Washington Univ., asso. prof., T. **B** Ph.B., 1927, M.A., 1928, Ph.D., 1934, Wisconsin. **C** A statistical analysis of regional variation in business cycles in the United States, together with an analysis of cyclical activity in the state of Wisconsin. **D** 4, 5, 17. **F** "Regional variation in business cycles in the United States," Southwestern Soc. Sci. Quar., Sept., 1939.

ZERBY, Paul E., State Col. Sta., Fargo, N.D. (1939) **A** North Dakota Agric. Col., Dept. of Econ. and Soc., acting head, asst. prof. of econ., T. **B** B.A., 1924, Eureka; M.A., 1925, Illinois. **D** 12, 1, 3. **E** Analysis of estates probated in Cass Co. courthouse; geographical distribution of homes of land grant institution students (to be pub. in Jour. of Higher Educa.).

ZIMMERMANN, Erich Walter, Univ. of Texas, Austin, Tex. (1921) **A** Univ. of Texas, prof., TR. **B** Ph.D., 1911, Bonn Univ. **C** Die britische Kohlenansfuhr (Glückauf, Essen, 1911). **D** 3, 8. **E** Hierarchical structure of world economy; comparative morphology of economic systems. **F** World resources and industries (Harper, 1933); Ocean shipping (Prentice-Hall, 1921); "The resource hierarchy of modern world economy," Weltwirtschaftliches Archiv, 1931. **G** WSI.

EDITORIAL NOTE ON CLASSIFICATION OF MEMBERS ACCORDING TO FIELDS OF INTEREST

In compiling the 1938 handbook an effort was made to classify members according to their fields of specialization or interest. To this end members were asked to indicate such fields on questionnaires, following the divisions used in the *American Economic Review* section on book reviews, articles, and Ph.D. dissertation lists. But these divisions did not represent a logical classification of fields and the great variety of terms used to identify them made classification of names into groups impracticable. In the secretarial office, several volumes of the handbook were checked according to special fields, e.g., theory, money and banking, public finance, etc., but the results were not dependable because members had not been asked to indicate their interests in the order of their importance nor according to a common nomenclature.

In the 1942 directory, we attempt to present a satisfactory classification of members into twenty different subdivisions of the field of economics and according to first, second, and third preferences as indicated in item "D" of the questionnaire.

Classification of human interests and activities is a highly complicated matter. A genus-species type would have been more accurate but not as practical as unit-subject classification. Unfortunately the main group headings have different meanings. A member interested in some particular field might logically check his interest under alternate or several group headings. To cite a single example, an economist interested in "prices" might check any of the following (see key): 1, 2, 4, 5, 7, 10, 11, 12, 15.

The difficulty of obtaining concreteness in classification of subject matter was exemplified further by our experience with irregular cases. Of the 2,550 odd questionnaires returned, some 110 members wrote in special titles under "other" (21). For the most part, these titles were merely different names or subheads under the main captions and they were so reclassified. About 250 members checked more than three fields, and it became necessary to select primary and secondary interests from the evidence available; namely, their activities, present and past, their research projects under way, Ph.D. dissertation titles, and publications. Thirty members were not classified, either because they expressed their desire not to be classified or because adequate clews were missing.

As an aid to the reader's understanding of how special interests have been classified under general groups, there follows below a list of the twenty classes of subject matter titles with subheads.

In using the classification of members derived from the answer to item "D," the reader must take into account not only differences in interpretation of what special subjects come within the general fields but also what is meant by major "interest." In most cases members obviously referred to their present interests, especially in indicating their first choice, but these fields are not necessarily those of their former interest and activity nor those in which members may have made their major contributions. For this reason, as well as on account of the complexity of pigeonholing specialized subjects, some members may find themselves classified with strange bedfellows.

In order to conserve space, it was deemed necessary to list members under fields of their first choice and to indicate second and third choices by numbers following their names. This makes possible further refinement of classification to those interested in special subjects.

We have no desire to stereotype divisions and subdivisions of our discipline, but we see much to be gained in the development of a workable, if flexible, list of subject matter groups under which we can classify authors and personnel. A subject-author index of our publications yet remains to be done, and future editions of this type of "who knows what" directory are not improbable. We should appreciate receiving the benefit of suggestions and corrections from our members and others using the volume.

SUBJECT MATTER GROUPS WITH SUBHEADS

Note: These lists of subheads are not exhaustive, but it is believed that they are suggestive and representative. They are drawn from terms used in making up the questionnaire and from terms employed by those sending in their answers.

1. Economic Theory; General Works

Economic theory
History of economic thought
Institutional economics
Price, valuation, and capital theory
Interest, rent, wage, profit theory
Distributive economics
Capital formation
National income and wealth and their distribution (cf. 19)
Economic planning, general
Economic stabilization
Theory of industrial location, etc.
Engineering, medical, and business economics
Psychology and ethics, legal theory and economics (cf. 10)
Education and economics
Welfare economics (cf. 18)

2. Economic History (not limited to a single special field; e.g., business, industrial, agricultural, labor)

Ancient, medieval, early modern, modern
U.S., American, Latin-American, oriental, etc.
Economic institutions
Historical records

3. Economic Systems; National Economics

Economic organization and systems
Capitalism, private, the state and capitalistic organization, capitalism and democracy, etc.
Socialism
Communism
Economics of totalitarian organization
Economic planning, national economic systems and policies (U.S., England, Central Europe, Russia, etc.)
Postwar national planning
Colonial and imperialistic systems and policies
Government planning (cf. 10)

4. Statistics; Mathematical Economics; Accounting (theory and practice)

Quantitative economics, techniques of observation and analysis, records (cf. special areas; e.g., prices, production, wages, money, banking, and credit, business and financial forecasting, national income and wealth, labor, population, etc.)

5. Business Cycles and Fluctuations

Fluctuations of economic and business factors—seasonal, cyclical, secular, sporadic; theory, history, statistical, measurements, forecasting
Business, economic, or trade cycles, U.S., other countries
Business conditions and forecasting

6. Public Finance; Fiscal Policy; Taxation

General, federal, state, and local
Historical
Revenue and taxation, including tariffs (revenue aspects)
Expenditures
Public debt
Budgets and financial administration
Public accounting and auditing (cf. 4)
Administration of state industries

7. Money and Banking; Short-Term Credit

Money, credit, and prices
Monetary theory and history
Banking: commercial, savings, investment and specialized financial insti-

tutions functioning in the short-term money market (including consumer finance)
Bank organization and administration
Bank practices and policy
History of banking
Central banking and credit control
Money markets

8. International Trade, Finance, and Economic Policy

Commercial policies (regulatory aspects), protective tariffs, bounties, reciprocity, quotas
Foreign exchange, balance of payments, costs and prices
International finance
International capital movements, gold movements, etc.
Control of raw materials
Trade practices

9. Business Finance; Insurance; Investments; Securities Markets

Corporation financial organization and policies
Corporate securities (private and public)
Security exchanges and the capital market
Insurance (private): life, fire, casualty, marine, annuities and pensions, health, and other risks
Investments (cf. 18)
Speculation

10. Public Control of Business; Public Administration; National Defense and War

Government and business
Legislation, administration, and the the courts
Government regulation, ownership, and operation
Rationing, priorities, etc.
Government in business
Government corporations and competition
Emergency public works
Government administrative agencies (ICC, Fed. Trade Com., etc.)
Antitrust laws
War economics
Price control (legal and administrative aspects)

11. Industrial Organization; Price and Production Policies; Business Methods

Forms of business organization
The corporation
Competition
Combination, monopolies, trusts and combines, cartels
Trade associations
Concentration of economic control (private)
Industrial management (cf. 13, 14, 15)
Industrial economics, plant location, materials, personnel management, job analysis, time studies, technical processes, etc.
Industrial surveys (cf. markets, 12)
Scientific management, rationalization, planning
Business price policies (cf. 1, 4, 7, 10, 12)
Price making and competition
Prices and production costs
Price behavior

12. Marketing; Domestic Trade

Wholesale and retail marketing
Sales administration
Agricultural marketing (cf. 15)
Industrial marketing
Advertising
Co-operatives (cf. 19, 15)
Market surveys
Price mechanisms
Price policies, retail, chain stores, etc. (cf. 11)
Consumer demand (cf. 19)
Interregional competition (cf. 8)
Trade areas

13. Mining; Manufacturing; Construction

Mineral resources, their utilization and conservation
Extractive industries (other than agriculture, forestry, and fishing)

Manufacturing industries
- Production costs and prices
- Plant location (cf. 11)
- Materials, supply, purchasing (cf. 11)
- Markets, selling (cf. 12)

Construction, public and private

14. Transportation; Communication; Public Utilities

Roads and highways
Water transportation
Air transportation
Railways
Street railways
Bus and truck transportation
Postal and express services
Rates, valuation, capitalization, depreciation, and finance (cf. 9)
Government regulation, ownership, and operation (cf. 10)
Telephone, telegraph, radio communication
Electric power
Gas, light, water

15. Agriculture; Forestry; Fisheries

Agriculture in general, agricultural economics
Regulation of production
Agriculture and business
Agriculture: capital, prices (cf. 1), parity prices, machinery, credit, mortgages and finance
Large farms
Small farms
Co-operatives
Farm power
Types of farming
Farm management, general, area studies
Farm accounting (cf. 4)
Dry farming
Farm woodlots
Subsistence homesteads
Submarginal land
Conservation plans (cf. 16)

16. Economic Geography; Regional Planning; Urban Land; Housing

Economic geography and geology, natural or physical resources
Food supply
Raw materials in general
Power resources (general)
Conservation (cf. 15), drainage, irrigation, land clearing, wind erosion, erosion control, floods, forestry, soils
Land economics and land use
Economic resources surveys and planning
Real estate
Regional planning
Rural planning, economic aspects
City planning, zoning
Localization and planning of areas of production and residence
Housing

17. Labor and Industrial Relations

Labor conditions and groups
- Wages and hours
- Employment and unemployment
- Seasonal aspects
- Health and fatigue
- Migratory labor
- Casual and domestic labor
- Agricultural labor
- Women and children
- Superannuated and disabled workers

Industrial labor relations
- Labor legislation, group relations, hours, wages, and conditions
- Labor market and employment services
- Trade union organization and policies
- Management organization and policies
- Arbitration, conciliation, mediation, collective bargaining
- Vocational guidance and training

Foreign and international labor movements and standards
- Labor history (cf. 2)

18. Social Insurance; Relief; Pensions; Public Welfare

Social insurance and relief (the indemnification of loss of earnings and provision for relief)
Social security
Unemployment, old age and survivors' insurance
Health and invalid insurance, mutual aid societies
Workmen's compensation
General social services
Community health
Unemployment relief and public works
Youth work
Private and public assistance
Charity and pauperism
Crime and delinquency
Welfare institutions
Social problems
Education (cf. 1)
City problems and planning (social aspects) (cf. 16)

19. Consumption; Income Distribution; Co-operation

Consumption economics and consumer problems
Standard of living (groups and regions)
Family income
Budgets and finance
Food, shelter, and clothing
Protection and services
Recreation
National income and wealth and their distribution (cf. 1)
National income estimates
Functional distribution of national income
National income, distribution by income size
National wealth and its distribution
Co-operative buying

20. Population; Migration; Vital Statistics

Demography in general
Census problems and methods
Immigration and emigration
Migratory labor (population aspects)
Race problems

CLASSIFICATION OF MEMBERS

1. Economic Theory; General Works

Abbott,WJJr 7,8
Ackley,G 10,11
Adams,GPJr 3,10
Ambs,KF 7,12
Andrews,WH 4,6
Andron,M 4,14
Arnold,AZ 4,7
Atkins,D 3,5
Ayres,CE 2
Bagley,WCJr 2,7
Baldwin,CD 3,6
Bangs,RB 4,5
Baran,PA 3,6
Barnard,CI 3,11
Bass,LW 13,12
Beach,EF 4,5
Becker,NM 5,8
Belcher,AE 2,20
Bennett,WB 10,11
Bergson,A 3,10
Bezanson,A 2,5
Bigelow,KW
Biggs,RM 7,10
Billings,AG 7,10
Birnberg,RG 2,11
Bissell,RMJr 5,6
Bittermann,HJ 6,4
Blackstone,AE 6,14
Bladen,VW 5,20
Blodgett,RH 3,5
Bober,MM 11,7
Boddy,FM 11,4
Bohn,C 5,2
Bovet,ED 5,11
Bowen,HR 6,5
Bowman,RT 4,18
Boyd,RK 4
Boyden,TC 2,7
Breckenridge,WN 14,10
Brozen,Y 5,7
Burnett,JO 4,12
Burns,AE 5,6
Bursiek,RC 8,4
Butt,WE 14,4
Bye,RT 3,5
Cady,GJ 11,17
Caplan,B 5,10
Carey,RL 2,6
Carroll,JM 10,6
Chamberlin,EH 14,11
Clark,E 19,7
Clark,FB 7,10
Clark,JM 10,5
Clark,WE 7
Clower,FW 5,17
Cohan,AB 11,6
Coleman,FBT 4,7
Collins,WJ 17,10
Copeland,MA 10,19
Crawford,RP 9,15
Curtis,CA 16,10
Custard,HL 5,6
Custis,V 11,10
Deibler,FS 17,10
Diamond,PM 11,7
Dickinson,ZC 17,19
Dillard,D 19,3
Divine,TF 17,8
Dixon,RA 19,2
Donaldson,DN 7,12
Donaldson,MH 17,6
Dulan,HA 9,4
Dummeier,EF 15,8
Dunlop,JT 17,11
Ellis,HS 8,7
Engstrom,B 11,12
Estey,JA 5,17
Fabricant,S 5,11
Ferguson,JM 3,14
Fetter,FA 10
Fisher,I 7,6
Flubacher,JF 2,10
Flynn,JT 5,9
Foley,JH
Foreman,CJ 3,11
Freedman,AM 4,7
Friedman,M 19,4
Frizol,SM 15,2
Froehlich,W 12,10
Galbraith,JK 8,15
Galbreath,CE 10,7
Gale,HR 5,3
Galloway,LJ 4,7
Garrett,SS 11,17
Garver,FB 10,4
Ginzberg,E 17
Glidden,RT 11,8
Grady,EH 17,3
Graue,E 5,3
Gruchy,AG 7,10
Hagen,EE 5,19
Haley,BF 5,6
Haley,RM 2,14
Hall,FP 6,2
Haney,LH 14,5
Harris,AL 17
Hart,AG 6,19
Hart,L 4,6
Harvill,RA 5,8
Hasek,CW 5,8
Hasse,AR 8,16
Heaney,NS 3,16
Heath,MS 2,11
Helms,LA 17,14
Hemmeon,JC 5,6
Heskin,OE 12,7
Hill,GB 19,9
Hinman,AG 16,12
Hinshaw,RW 5,7
Hochwald,W 10,17
Hodges,JR 2,11
Homan,PT 10,6
Hoover,CB 3,4
Hough,LS 7,4
Howey,RS 7,8
Hudson,HW 19,6
Hudson,PG 6,4
Humphrey,DD 11,5
Hutchinson,KD 10,12
Jaffé,W 4,2
Jefferis,RPJr 7,8
Jenison,ES 17,3

Jennings,HC 10,7
Kaiser,CW 17,19
Kaufman,A 2,8
Keirstead,BS 10
Kelly,TA 3,4
Kiekhofer,WH 8,7
King,WI 17,7
Kinmonth,JL
Klaragard,S 11,12
Kleene,GA 3,5
Knight,FH 3,2
Kravis,IB 17,7
Lang,AS 6,7
Lange,OR 5,4
Lederer,W 5,7
Leland,RG 4,20
Leontief,WW 4,3
Liu,TC 4,8
Long,D 7,12
Loucks,WN 3,10
Love,JL 8,10
Lowe,A 5,8
Lutz,FA 7,5
Macaulay,FR 4,5
Machlup,F 7,5
Mack,RH 6,3
MacMurphey,RH
Mandel,B 4,17
Marsh,DB 8,6
Mason,WE 5,19
Matchett,GJ 10,11
McClung,RL 5,6
McCracken,HL 5,7
McGuire,CH 8,5
McManus,TF 7,5
Meyers,AL 12,5
Millikan,MF 11,4
Mises,L 7,5
Mitchell,WC 5,2
Moffat,JE 3,10
Monroe,AE 7,6
Moore,FW 10,12
Morris,MH 10,8
Morrison,J 8,7
Morrow,CH 20,2
Morse,HC 10,12
Morse,HC 8,3
Morss,N 10,16
Mosak,JL 4,5
Mund,VA 11,10
Murad,A 7,5
Neal,AC 10,11
Nerlove,SH 9,5
Nielsen,O 4
Noetzel,GAJ 5,8
Norris,RT 8,17
Noyes,CR 3,7
O'Leary,JJ 7,3
Oliver,HMJr 3,5
Opie,R 8,7
Patterson,SH 17
Patton,FL
Patton,RD 2,3
Paustian,PW 19,2
Petersen,KR 14,10
Peterson,R 6,17
Pettengill,RB 8,3
Phinney,JT 7,18
Pierson,JHG 3,6
Piquet,HS 8,6
Plummer,WC 19,7
Porter,ARJr 4,3
Pribram,K 19,16
Puffer,CE 14,6
Purdy,DA 14,4
Pyle,HG 18,10
Rath,JJ 12,17
Reich,N 17,3
Reiner,J 5,2
Riggleman,JR 12,4
Rogin,L 5,2
Ruggles,R 5,4
Russell,WL
Ryden,ED 10,19
Saby,RS 2
Samuelson,PA 5,4
Sanford,GW 8,10
Sarnoff, MM 5,19
Schenkel,A 4,9
Schmidt,AB
Schumacher,AC 5,6
Schumpeter,JA 5,4
Seligman,BB 16
Serrano,EE 6,7
Seybold,JW 3,7
Shaw,ER 11,7
Shaw,WH 3,5
Shearer,WW 5,17
Sheehan,JH 10,3
Sherrard,A 6,11
Simons,AM 18,10
Simons,MW 2,10
Skaug,A 20,17
Slesinger,RE 5,10
Sloan,VB 17,18
Smith,VE 4,8
Soldinger,MA 4,17
Solterer,J 4,5
Somers,HM 7,4
Spencer,MJ 6,10
Spiegel,HW 15,8
Stevenson,LT 5,10
Stevenson,RC 10,7
Stigler,GJ 11,6
Still,RR 17,5
Stinneford,CL 2,17
Stolper,G 6,5
Stolper,WF 5,8
Stricker,AKJr 3,11
Strickland,MA 17
Sullivan,R 8,19
Swonger,CW 12,7
Taeusch,CF 2,15
Taylor,AW 3,9
Taylor,CT 6,4
Terpenning,WA 2,5
Towne,ET 19,10
Traywick,LE 2,4
Triffin,R 8,11
Viner,J 8,6
Walsh,JJ 2,5
Walton,IT 17,7
Waters,RH 14,4
Watkins,RJ 3,10
Waugh,AE 4,19
Weintraub,S 7,5
Weisenfeld,AH 17
Weiss,FJ 16,11
Whitright,GM 5,4
Wiest,E 7,10
Williams,CS 3,16
Wilmot,WVJr 14,4
Winslow,RS 10,3
Wolfard,JA 17,3
Wolfe,AB 20,3
Wolfe,FE 4,9
Wollman,N 7,10
Wright,CC 6,7
Wright,W 5,11
Yntema,DB 4,18
Zassenhaus,HK 5,2
Zingler,EK 17,3
Zuckerman,H 3,16

2. Economic History

Anderson,SA 16,11
Baily,NA 10,1
Baska,LM 17,20
Batchelor,JA 13,1
Bender,WC 4,7
Berry,TS 4,11
Bogart,EL 6
Bohan,RT 1,8
Brock,LV 7,1
Buchanan,DH 3
Chambers,R 14,16
Chancellor,WE 17,12
Childs,JB
Clark,VS 16,17
Clemen,RA 10,15
Cole,AH
Cole,CW 3
Cooper,V 1,17
Danhof,CH 15,10
Davies,MG 3,17
Day,C 3
Eby,BS 17,10
Edwards,GW 9,7
Faulkner,HU 17
Fitch,HJ 4,5
Florinsky,MT 3,8
French,DR 1,7
Gay,EF
Gillespie,JR 15,12
Gitelson,ML 11,12
Gras,NSB 3
Guyton,PL 6,1
Hacker,LM 10,3
Haller,WJr 1,19
Hamilton,EJ 7,8
Hammond,S 13,11
Hart,WL 16,20
Havens,RM 7,1
Heaton,H 8
Helmreich,TC 8,10
Hidy,ME 8,6
Hyde,DC 3,4
Jenks,LH 8
Jennings,WW 11,16
Johnson,EAJ 1
Kemmerer,DL 7
Kessler,WC 11,12
Labastille,FM 8,16
Lake,WS 7,4
Larson,HM 11
Lassen,AP 16,8
Lebergott,S 17,19
Lippincott,I 16,8
Mackintosh,WA 5,6
Marburg,TF 3,10
Martin,EW 8
McKinley,SJ 8,14
McVey,FL 6,3
Mosk,SA 16,8
Nef,JU 10,1
Normano,JF 1,3
Norton,JR 1,8
Olson,AL 1,3
Orton,WA 3,17
Packard,RM
Peterson,MS 16,19
Redlich,FL 7,17
Ricketts,FM 8,19
Schwartz,D 11,4
Shaw,HFR 3
Simon,SF 17,3
Smith,RS 19,20
Taylor,GR 10,1
Tilton,CG 17,8
Usher,AP 16
Virtue,GO 3,17
Williamson,HF 7,11
Woodruff,RJ 1,8

3. Economic Systems; National Economics

Allen,EJ 17,18
Arendtz,HF 5,7
Behlow,RR 5,10
Boner,JR 9,1
Brandenburg,SJ 2,16
Carroll,DD 6,10
Chase,CH 10,11
Day,EE 10,5
Douglas,GA 17,8
Duncan,K 8,6
Eskildson,HNJr 14,8
Goldenberg,L 13,1
Goldwater,M 10,11
Goodbar,JE 7,10
Goodwin,EB 4,8
Gordon,WC 8
Hong,EN 4,11
Jensen,FB 8,1
Johnson,KW 1,10
Keezer,DM 14,17
Kinsella,TJ 10,16
Knauth,OW 10,5
Knight,MM 2,8
Kozlik,A 17,4
Krueger,MC 17,1
Kuhns,WR 1,8
Lachmann,KE 8,10
Landauer,C 1,8
LeRossignol,JE 1,18
Lonigan,E 10,17
Luce,R 6,7
Ludlow,WL 15,1
Mackenzie,F 10,1
Means,GC 1,5
Moore,HL 1,4
Morgan,LT 2,17
Moulton,HG 8,6
Munk,F 8,12
Nathan,RR 10,19
Pitigliani,FR 8,10
Ratzlaff,CJ 1,17
Read,LE 6,12
Saucerman,RC 10,15
Scholz,KWH 1,8
Shea,JL 10,1
Sikes,ER 6,17
Sweezy,PM 2,1
Taylor,PE 6,1
von Beckerath,H 11,10
Walker,D 4,6
Weld,WE 8,14
Zimmermann,EW 8

4. Statistics; Mathematical Economics; Accounting

Akerstrom,CE 1,10
Alm,IW 9
Andersen,AE 9,3
Andrew,SL 9,5
Ayres,LP 5,7
Ayres,MV
Barr,A 9,10
Baude,WA 5,7
Bernhardt,J 10,17
Bishop,PW 6,9
Blackburn,RF 5,10
Bliss,CA 11,13
Bradley,JF 7,9
Brainerd,CP 19,17
Briggs,LL 9,1
Brumbaugh,MA 6,10
Buchan,LJ 11,7
Burgess,RW 11,18
Burnside,M 11,10
Bushey,JH 5,18
Carlock,JE 7,9
Chadwick,LE 11,12
Coleman,RW 6,8
Colgan,VE 8,18
Collins,CW 6,9
Conn,HD 8,16
Cooper,HE 7,9
Corcoran,JJr 10,1
Cornish,RS 7,1
Cowden,DJ 1,5
Cowin,RB 1,14
Cowles,A 9,5
Crum,WL 6,9
Curtis,WR 18,17
Davies,GR 5,3
Dix,SM
Donnahoe,AS 11,6
Drucker,AB 8,10
Durand,D 9,1
Eastwood,RP 12,11
Ekeblad,FA 5,1
Elwell,FH 9
Evans,WD 13,17
Fackler,CW 1,5
Feldstein,MJ 18,20
Fenimore,JB 9,10
Ferger,WF 15,6
Finney,K 6,5
FitzPatrick,PJ, 7,5
Flinn,BW 9,5
Flocken,IG 6,9
Frankel,ET 18,20
Froehlich,WH 12,10
Fryxell,CA 9,16
Gibson,EW 5,1
Glaser,E 19,11
Goldfield,ED 17,20
Goldhammer,B 14,1
Goldner,W 10,18
Griffin,JI 1,17
Groden,GD 1,7
Hadley,CD 1
Hall,WS 2,9
Hamilton,TR 1,5
Hanson,AW 9,11
Hartkemeier,HP 11,5
Hasbrouck,HC 14,18
Haworth,CL 12,5
Henry,RJ 9,6
Herzog,AL 5,7
Hiatt,A 8,11
Himmelblau,D
Holmes,FB 17,18
Horne,GR 7,9
Hosmer,WA 11,9
Howard,EH 6
Hunt,BC 6,2
Jackson,JH 11,10
Jameson,ME 17
Jenkins,WB 15,8
Johnson,EH 9,12
Johnston,CE 11,14
Jones,AW 13,10
Jones,RC 9,6
Kacmarynski,LF 9,7
Kellogg,LS 1,11
Kelly,TH 1,9
Kendikian,AS 11
Kennedy,DD 10,1
King,AF 12,5
Koopmans,T 5,14
Kozelka,RL 12,7
Laing,LL 6,11
Langhoff,SPJr 14,13
Larimore,TR 17,18
Leland,TW 9,11
Lemke,BC 9,11
Leonard,WR 14,10
Levitan,S 17,18
Lipsky,D
Lorenz,PF 9,7
Lorig,AN 1,10
Lutz,WH 5,14
MacGarvey,CJ 6,9
Manhart,LF 12,1
Manly,LF 17,10
Marschak,J 19,5
Martin,OR
Maverick,LA 5,1
May,GO 6,10
McConahey,JM 5,9
McIntyre,FE 9,1
Meehan,MJ 5,8
Middleton,KA 17,1
Mills,JA 9,18
Moffat,RE 8,10
Moonitz,M 5,11
Morton,JE 5,8
Mudgett,BD 1,9
Musselman,RM 6,10
Nelson,CL 6,9
Noetzel,AJ 9,1
Norris,N 1,11
Oehler,C 7,9
Ormes,FR 7,3
Otto,EA 11,5
Owens,RN 11,9
Palmer,EZ 3,19
Peters,IL 1,17
Powell,W
Preinreich,GAD 6,9
Read,WH 6,9
Riegel,R 9,18
Rose,JV 1,7
Samuelson,CA
Sanders,TH 10
Schindler,JS 9,1
Schlatter,WJ 9,1
Scovill,HT 11,6
Shelton,WA 1,14
Siegel,SN 9,8
Simmons,CD 9,18
Smith,FP 9,7
Smolinski,HJ 17,11
Snyder,RM 5,1
Stein,H 5,7
Stempf,VH 11,10
Stevenson,RA
Stockton,JR 5,12
Struve,LW 11,12
Sublette,MH 10,7
Sutcliffe,WG 5,1
Taylor,VW 1,18
Taylor,WH 14,10
Tebbutt,AR 5,11
Van Voorhis,RH 3,1
Van Winkle,EH 5,11
Vatter,WJ 9,11
Walling,HC 6,10
Warne,FJ 20,14
Watrous,GDJr 8,15
Welsh,LM 5,9
Wiedeman,HC 5,1
Wiers,P 8,5
Wightman,GJ 12,19
Wilcox,SW 17
Winslow,HJ 18,20
Woodbridge,FW 9
Woytinsky,W 18,20
Yntema,TO 10,11
Young,ER 14,1
Zempel,A 5,17

5. Business Cycles and Fluctuations

Abramovitz,M 1,11
Adams,AB 1,3
Adler,JH 1,8
Auerbach,SJ 9
Babson,RW 9
Berridge,WA 9,6
Boothe,VB 4,3
Bratt,EC 4,1
Breckenridge,FP 9
Bronfenbrenner,M 6,4
Brown,B 7,9
Brush,WS 14,10
Bryan,RF 9,10
Buchanan,NS 1,9
Burns,AF 1,13
Cist,F 7,8
Clemence,R 7,1
Colvin,W 17,19
Cronin,JF 17,3
Currie,L 8,6
Demmery,J 16,10
de Vegh,I 8,19
Dewey,FA 9,6
Ehricke,KN 11,13
Flanders,RE 10,18
Frickey,E 1
Fulcher,GS 18,8
Garfield,FR 13,19
Hallowell,BC 1,8
Hansen,AH 6,7
Hayes,HG 3,1
Heflebower,RB 1,11
Herbert,CH 6,10
Hermens,FA 7,1
Hubbard,JB 11,4
Hurwicz,L 4,10
Jacobs,GR 6,4
Kaplan,M 16,6
Kuznets,SS 1,19
Link,RG 19,11
Long,CD 1,4
McCracken,PW 1,6
McGregor,HE 1,4
Micoleau,HL 4
Mikoljon,SJ 6,14
Milam,PW 16,9
Mills,FC 4,1
Milroy,RR 9,4
Morgan,T 1,6
Nathan,O 8,17
Noble,JH 4,9
Nugent,R 10,6
Olsen,HV 10,4
Percefull,SC 1,7
Quirin,EL 9,1
Robb,TB 9,7
Roose,KD 1,4
Russel,AW 7,1
Salant,WA 8,6
Salant,WS 6,1
Schweitzer,A 3,10
Seibert,JC 9,12
Shaw,AW
Shiskin,J 11,12
Silberling,NJ 7,4
Smith,RL 7,4
Smith,WB 8,1
Spaulding,CB 7,1
Sturmthal,AF 1,17
Swanson,EW 6,4
Timoshenko,VP 8,15
Tsuru,S 8,2
Ulrey,IW 14,10
Villard,HH 6,7
Vining,DR 4,1
Wardwell,CAR 4,10
Wernette,JP 12,1
West,RJ 12,14
Wilson,DS 10,7
Wright,DM 6,7
Yager,JA 10,1

6. Public Finance; Fiscal Policy; Taxation

Allen,ED 5,9
Allen,HK 8,10
Altman,OL 5,10
Alyea,PE 9,7
Aull,GH 15,19
Bacon,MA 4,1
Baker,CO 4,9
Beal,TA 7,1
Bennett,VE 10,2
Blakey,RG 8,19
Bloch,HS 10,8
Blough,JR 10,1
Borak,AM 1,7
Briggs,RJ 1
Brodie,H 10,8
Brooks,RP 7,2
Brown,HG 1,5
Brown,PM 4,8
Buchanan,JM 3,1
Buehler,AG 10,1
Burbank,HH 10,11
Burkhead,JV 14,7
Butters,JK 1,4
Carlson,RE 10,1
Chau,YP 7,8
Cline,DC 18,1
Cohen,HL 9,7
Colm,G 8,3
Cooke,GW 9,4
Corey,CS 7,1
Criz,M 10,7
Crockett,EC 7,17
Cummings,HJ 19,11
Curran,KJ 10,1
Dassel,VH 4,10
Davisson,MM 10,12
Demond,HF 10
Domashevitsky,J 8,10
Donovan,CH 5,10
Dunham,SH 4,9
Durham,WAJr 14,10
Ecker-Racz,LL 18
Eisenberg,GG 9,7
Ellis,PW 1

Ellsworth,V 15,10
Ensley,GW 10,14
Eulenberg,A 4,10
Fagan,ED 1,5
Fernald,RL 1
Fields,HH 1,8
Fishman,L 10,17
Fitch,LC 5,7
Flanders,DP 5,1
Ford,RS 10,7
Gardner,EJ 5,4
Garwood,JD 1,7
Gerstenberg,CW 10
Gilbert,DW 5,4
Gillim,MH 4,1
Glover,JD 8,10
Goode,RB 5,1
Gray,ER 10,4
Griffenhagen,EO
Griffin,AG 7,18
Griggs,FD 10,18
Guest,HW 7,3
Haensel,P 8,3
Hahne,EH 1,7
Haig,RM
Hall,CAJr 1,14
Hall,JK 14,5
Hand,GH 7,1
Handy,WKJr 7,18
Harriss,CL 1,2
Hayes,JL 11,12
Heebner,RG 5,1
Heller,WW 14,1
Hillhouse,AM 10,4
Hitch,TK 3,7
Hofstad,AF 4,5
Hoover,GE 7,8
Hunter,MH 1
Huse,CP 2,1
Huston,JW 7,17
Jackson,KC 7,9
Johnson,GGJr 10,11
Jones,WG 11,17
Kamins,RM 10,3
Keith,EG 7,1
Kendrick,MS 1,10
Killough,LW 16,4
Kimmel,LH 7,9
Kinsman,DO 7,3
Klein,JJ 4
Labovitz,IM 10
Lanier,CNJr 4,9
Larrabee,RA 16,17
Leffingwell,RC
Leland,SE 7,10
Leonard,NHJr
Lerner,AP 5,1
Lindholm,RW 8,11
Lockhart,OC 7,10
Lutz,HL
Macon,HL 5,14
Macy,CW 7,5
Marcoux,DC 1,4
Maxwell,JA 7,1
May,AB 8,18
May,ES 8,7
Maynard,EL 1,4
McClintic,JO 1,10
McKay,MK 10,14
McKinney,DH
Metzger,CR 5,16
Miller,ET 7
Mills,MC 1,10
Morris,BR 1,4
Morrison,VG 10,17
Morthland,RJ 1,17
Murphy,HC 7,1
Musgrave,RA 7,1
Nelson,GN 10,3
Newcomer,M
Newman,HE 7,1
Nicolaysen,AG 19,4
Noonan,AW 10,16
Nordstrom,OL 7,17
Oakes,EE 1,14
Osgood,RC 9,7
Owen,EL 3,16
Pagani,JJr 4,1
Paris,JD 8,5
Parker,C 2,10
Perry,GN 8,1
Pond,AS 15,9
Poole,KE 1,7
Potter,AN 7,1
Pymm,JD 17,7
Rapp,RE 7,14
Ratchford,BU 7,1
Ratner,S 8,10
Reber,HJ 7,5
Reed,EW 10,2
Reynolds,TJ 10,4
Rice,LP 15,10
Roberts,HV 1,2
Rosa,J 10,15
Ruggles,CG 10,18
Sanow,KP 4,1
Schaper,WA 10,9
Scheinman,D 18,1
Schmelzle,WK 11,1
Schmidt,EB 1,4
Schultz,AD 4,10
Selko,DT 10,4
Shoup,CS 1,7
Shultz,WJ 11,7
Simons,HC 1,7
Smith,DT 7,9
Smith,JG
Snavely,TR 1
Spencer,RC 10
Spengler,EH 16,1
Stephan,AHF 1,10
Stettner,WF 7,8
Stiles,LA 1,14
Stimson,CW 10,1
Stockwell,MM 17,1
Strayer,PJ 10,7
Suiter,WO 7,3
Sundelson,JW 18,10
Tesoro,GA 1,3
Thayer,RI 14,1
Titus,PM 7,5
Tower,RB 19,10
Trumbull,WP 4,1
Turner,CL 4,5
Ullian,FS 4,3
Van de Woestyne,RS 2,1
Vickrey,WS 14,4
von Mering,OO 1,8
Wald,HP 7,1
Walker,JE
Walker,ML
Walradt,HF 2,7
Watson,WN 1,7
Welch,RB 10,14
Wheeler,OP 7,10
Whitaker,BP 9,7
Williams,AH 7,8
Williamson,KM 1,8
Wilson,WC 2,10
Withers,W 18,10
Woodworth,LD 3,4
Wueller,PH 1
Wyckoff,VJ 14,2
Wynne,WH 8,10

7. Money and Banking; Short-Term Credit

Agger,EE 9,3
Alley,WE 4,9
Anderson,BM 1,8
Anderson,CJ 5,8
Andress,AE 19,17
Arndt,KM 6,3
Axelson,I 8,5
Bach,GL 6,1
Baer,WN 6,14
Bagley,ES 9,1
Bancroft,EC 6,5
Barnes,HR 2,9
Basch,A 8,3
Beckhart,BH 9,6
Beckman,TN 12,11
Bekker,K 5,1
Bell,JW 5,6
Bell,S 5,4
Bernstein,EM 5,8
Bornemann,AH 4,11
Bowler,JF 1,4
Bradford,FA 5,6
Bradley,CJ 15,16
Bremer,CD 4,8
Brooks,BF 6,1
Brown,CK 14,1
Cable,JR 2,9
Cadman,PF 3,9
Calhoun,WP 9,1
Cameron,RE 9,14
Campbell,CA 6,3
Carlson,V 1,6
Carney,JJJr 8,1
Carothers,N
Carpenter,CC 1,9
Carson,WJ 9,6
Cawthorne,DR 4,9
Chandler,LV 5,6
Clark,M 6
Clemens,RJr 8,6
Cleveland,WC 5,8
Clevenger,CH 1,19
Cole,DM 9,1
Conwell,RE 19
Cotton,TL 19,18
Cox,GV 9,5
Crennan,CH 5,9
Cross,IB 17,3
Cusack,LA 4,10
Cushing,MB 1,9
Daily,DM 4,9
Dauer,EA 9,4
Delaplane,WH 8,9
Dewey,DR 2
Dice,CA 9,1
Dolbeare,HB 8,9
Draper,EG 6,8
Dressler,BG 8,9
Dunkman,WE 5,8
Dye,EV 1,8
Earley,JS 1,10
Ebersole,JF 6,9
Eckert,JB 10,1
Edie,LD 5,6
Edminston,HH 5,6
Egle,WP 5,6
Ellerman,FJ 4,9
Erickson,RA 9,5
Fenninger,CW 9,6
Fichtner,CC 10,9
Fisher,CO 1,14
Ford,CW 6,1
Foster,MB 1,6
Freeman,RE 8,6
Froman,LA 9,11
Fuller,DAJr 6,1
Gane,FH 1,16
Garis,RL 14,20
Garlock,FL 15,5
Garver,ES 9,8
Gayer,AD 8,5
Gile,BM 15
Glasson,WH 6,9
Goldenweiser,EA 6
Golightly,TH 3,10
Gonzalez,RJ 4,5
Goodhue,EW 1,17
Graham,FD 8,3
Greef,AO 9,5
Gregory,WL 10,8
Griffin,A 8,9
Griswold,JA 6,2
Gutmann,F 5,2
Haines,GH 17,9
Hales,CA 6,19
Halm,GN 3,1
Hannay,EB 5,8
Hardy,CO 5,9
Hart,MI 11,8
Hauhart,WF 8,6
Helm,F 9,11
Holladay,J 8,9
Horton,DC 6,15
Hotchkiss,HD 6,9
Hunt,EF 1,5
Hupp,BW 6,5
Inman,MK 1,2
Irons,WH 8
James,FC 5,2
Jeidels,O 8,9
Jenkins,LA 17,1
Johnson,EA 1,9
Johnson,RE 5,4
Jones,H 6,9
Jones,M 9,6
Keister,AS 9,6
Kelly,AW 5,10
Kemmerer,EW 8,6
Kemp,A 1,8
Kent,RP 6,4
Kimball,M 9,1
Kimberland,KG 8,17
Kincaid,EA 9,5
Lawres,IAJ 4
Lawson,EW 9,1
Leavens,DH 4
Leung,PK 4,3
Lichtenstein,W 8,6
Lieson,WA 5,8
Lin,L 8,3
Longstreet,VM 10,6
Lounsbury,RH 1,4
Lunden,LR 9,2
Madeleine,MG 1,4
Magee,JD 1,10
Mann,FK 6,1
Marget,AW 5,1
Marvin,DM 8,3
May,HK 10,1
McGraw,BT 6,5
McGrew,JG 1,2
Mendieta, FA 8,3
Merriam,ML 3,6
Mikesell,RF 1,5
Miller,AR 11,16
Miller,BO 1,14
Miller,HS 4,3
Mints,LW 5,6
Mitchell,WF 3,17
Mogilnitsky,TA 1,17
Morton,WA 1,5
Mueller,FWJr 9,4
Myers,MG 4,2
Myers,WR 8,5
Nadler,M 8,9
Neifeld,MR 4,19
Neisser,HP 1,5
Nolen,RM 1,5
Olson,OA 1,5
Ouchterlony of Kellie 6,8
Parry,CE 9,5
Peterson,EJ 1,4
Peterson,JM 1,2
Phillips,WT 9,5
Pitt,CH 6
Plumley,AJ 4,18
Potter,AA 1,15
Powell,OS 2,8
Prather,CL 6,1
Preston,HH 10,9
Reed,HL 5,1

Reeve,JE 6,5
Reilly,EE 5,6
Richards,CS 11,10
Roberts,GB 8,9
Rockafellow,R 1,10
Roelse,HV 6,5
Rogoff,E 5,4
Ronk,SS 4,6
Rosenson,AM 8,6
Ross,MO 10
Sarosi,O 9,17
Saulnier,RJ 9,5
Schrag,WA 9,4
Seltzer,LH 6,1
Severson,LE 9,1
Shaw,ES 5,1
Shields,DM 6,5
Simmons,EC 1,6
Sinsabaugh,RW 5,9
Smith,JG 1,2
Smith,L 5,9
Sollenberger,IJ 6,9
Southworth,SD 1,6
Spahr,WE 1,10
Spang,KM 4,5
Steiner,WH 9,8
Stewart,WW 5,9
Stokes,ML 14,1
Taggart,JH 8,5
Tamagna,FM 8,3
Temple,AH 6,5
Thomas,HP 6,10
Thomas,RG 1,8
Thomas,W 5,9
Thompson,DS 4,9
Tippetts,CS 6,10
Todd,ES 1,18
Tostlebe,AS 6,1
Trant,JB 5,1
Trefftzs,KL 9,5
Truitt,G 1,9
Tucker,MG 9,6
Turner,APLJr 10,6
Turner,RC 4,10
Tuttle,FW 1,9
Upham,CB 6,10
Wall,A 9,10
Warburton,C 19,11
Warren,RB 2,19
Watkins,LL 8,6
Weinwurm,EH 8,4
Welfling,W 6,5
Westerfield,RB 8,12
Weyforth,WO 5,8
Whitsett,JM 5,1
Whittlesey,CR 8
Williams,JH 6,5
Willis,JB 9,6
Willit,V 8,3
Winn,WJ 6,9
Wood,E 1,8
Woodworth,GW 4,5
Woosley,JB 9,5
Worley,FM 1,5
Wright,W 6,1
Young,RA 1,4

8. International Trade, Finance, and Economic Policy

Abelson,M 7,4
Adamson,RK 1,4
Andrus,JR 10,16
Atkins,PM 11,9
Baer,W 3,10
Bagwell,L 19,1
Baker,ERJr 2,3
Ballaine,WC 7,12
Beckett,G 2,7
Bidwell,PW 2,3
Bloomfield,AI 7,5
Bonnell,AT 2,1
Bradbury,RW 16,2
Braden,SE 7,18
Bratter,HM 7,6
Brossard,EB 10,15
Brown,WAJr 7,6
Browne,MS 4,7
Buck,NS
Bunting,FH 6,5
Burgess,EW 11,9
Burnstan,R 14,1
Butt,LE 15,19
Cale,EG 7,9
Carter,WHJr 7,16
Chalmers,H 2,20
Clark,EH 17,7
Collado,EG
Condliffe,JB 3,1
Condoide,MV 2,3
Coons,AG 3,1
Cover,JH 10,4
Cox,GC 7
Crafts,PCJr 17,10
Dean,PN 7
de Beers,JS 7,9
Dickens,PD 10,9
Diebold,WJr 3,10
Dietrich,EB 2,9
Donaldson,J 1,16
Dulles,EL 5,17
Durand,ED 4,11
Edminster,LR 15,2
Ely,JE 10,18
Exter,J 7,6
Fetter,FW 7,3
Feuerlein,W 7
Fishburn,JT 5,1
Fisher,AJ 9,4
Fox,AM 6
Franklin,HL 15,17
Fraser,HF 7,6
French,RW 14,12
Gay,MC 14,1
Gettell,EB 7,1
Gideonse,HD 9,3
Gideonse,M 2,3
Gilmore,EAJr 7,1
Gorski,RS 9,2
Gould,ER 4,12
Grady,HF 7,10
Gresham,HD 2
Haberler,G 1,5
Hall,RO 5,1
Hanson,SG 2,6
Hart,DJ 1,9
Heatherington,DF 6,7
Heilperin,MA 5,7
Hibbs,JR 1,2
Hickman,CA 2,1
Horak,J 7,1
Horne,RL 7,6
Huber,JR 1,19
Hunsberger,GE 17,1
Hunsberger,WS 6,7
Isaacs,A 19,1
Jacquelin,DG 16,10
James,CL 1,3
Jarrett,JM 15,6
Jones,GM 7,6
Jones,HE 14,7
Kapp,KW 1,10
Kilduff,VR 17,12
Killough,HB 12,11
Kindleberger,CP 1,7
Klein,J 12,2
Knipe,JL 7,9
Knox,FA 7,5
Kolbe,FF 10,9
Kreider,C 15,2
Landry,RS 1,7
Landuyt,BF 2,3
Law,DK 19,15
Lester,AH 2,4
Litman,S 1,3
Lorwin,LL 17,3
Lovass,L 7,1
Loveday,A 5,7
Luce,KK 2,5
MacGibbon,DA 1,14
Mallery,OT 5,3
Maurer,WJ 11,12
McDiarmid,OJ 4,1
McEwen,RJ 1,16
Mears,EG 13,16
Morris,VP 1,6
Mulliken,JH 6,4
Patterson,EM 1,7
Peirce,PS 2,17
Petruzzelli,NM 17,1
Remer,CF 2,9
Reynolds,AJ 6,10
Riefler,WW 7,5
Riley,DC 10,4
Rosen,HH 3,4
Ryder,OB 2,3
Salera,V 7,1
Schickele,RW 15,16
Schwenger,RB 5,1
Scroggs,WO 2,6
Shenefield,HT 10,6
Sherman,WR 3,12
Smith,MA 10,11
Smith,RE 1,10
Southard,FAJr 7,2
Spiegel,HR 6,7
Staley,AE 10
Staudinger,H 10,16
Steyne,AN 3,2
Stinebower,LD 1,3
Stone,NI 11,17
Strong,GB 5,1
Sumberg,TA 7,6
Tasca,HJ 7,3
Taylor,AE 7,2
Tibbits,GD 16,13
Titsworth,HH 6,5
Towle,LW 7,4
Upgren,AR 5,7
VanSant,ER 6,3
Veatch,R 2,10
Wallace,BB
Waring,FA 7,9
Welk,WG 3,10
White,EL 14,10
White,HGJr 10,7
Whitney,SN 10,6
Wiesen,TF 14,12
Winston,AP 11,1
Wythe,G 2,3
Young,JP 7

9. Business Finance; Insurance; Investments; Securities Markets

Allen,HH 10,3
Armbruster,AH 10,1
Armstrong,RH 5,16
Aul,HE 7,4
Badger,RE 7,1
Bailey,RW 4,11
Bailey,WB 20,5
Barnes,LP 14,4
Beach,WE 7,12
Beadles,WT 19,6
Benner,CL 8,7
Bestor,P 15,2
Bidgood,L 10,2
Bishop,WL 6,1
Blanchard,RH 18,10
Boedecker,KA 1,4
Boehmler,EW 11,7
Bogen,JI 7,3
Bosland,CC 10,14
Brethouwer,MW 6,7
Brown,PH 1,4
Budd,TA 4,7
Bussing,I 16,5
Calkins,FJ 5,11
Campbell,JA 11,7
Carlson,RE 8,19
Cartinhour,GT 4,7
Center,CC 18,11
Cherrington,HV 10,11
Clark,RN 8,4
Cramer,EH 7,4
Crobaugh,CJ 18,10
Cumberland,WW 6,8
Dahl,RE 6,7
Davis,PV 14,7
deFord,HJ 6,3
Dockeray,JC 4,6
Dodd,DL
Dolley,JC 7,8
Donaldson,EF 10
Dougall,HE 14,7
Dowrie,GW 7
Eiteman,WJ 11,5
Ekland,LM 7,5
Elliott,CM 18,1
Evans,GHJr 2,1
Fentress,C
Field,K 6,7
Fitzgerald,JA 7
Flatley,LT 4,7
Folsom,MB 18,4
Fraine,HG 11,17
Friedman,EM 6,14
Gartley,R 6,10
Gillis,AD 14,10
Gordon,J 11,8
Graham,B 5,3
Gruning,CH 4,10
Gumperz,J 1,8
Guthmann,HG 7,4
Halley,DM 10,1
Hart,OH 7,11
Hedges,JE 18,16
Hellborn,LS 6,4
Hicks,CM 14,10
Hoagland,HE 16,10
Hoffman,GW 12,4
Hollowell,WM 6,4
Hon,RC 7,6
Houston,GS 4,5
Howard,BB 7,5
Howard,SE 4,2
Howell,PL 11,14
Huebner,SS 5
Hunt,P 1,10
Husband,WH 7,10
Jackson,JR 5,7
Jekel,OH 4
Jeremiah,DB 7,6
Jome,HL 1,7
Jordan,DF 18,4
Kahler,CM 4
Keays,EM
Ketcham,MD 7,11
Kirk,LK 5,4
Kirshman,JE 5
Knappen,LS 6,10
Knight,EL 7,6

Kohnen,GB 7,6
Lagerquist,WE 14
Lanfear,VW 11,18
Langmuir,D 4,11
Larcom,RC 4,1
Larkin,GR 12,17
Latour,CC 8,10
Leffler,GL 7,6
Leinbach,JN 3,8
Lesser,AJr 7,11
Limber,RC 15,7
Lincoln,EE 11,5
Locke,HD 4,5
Loman,HJ
Long,LJ 1,6
Loomis,RH 5,3
Lyon,H
Manes,A 18,2
Masson,RL 7,8
Mayer,RW 10,14
McCahan,D 18,12
McClelland,ME 4
McMurray,HD 17,12
Meredith,LD 7,6
Merkel,CM 3,2
Mitch,GF 8,7
Moore,JH 7,8
Moore,WH 7,4
Morrison,PL 4,14
Mors,WP 7,17
Morson,WT 7,6
Mowbray,AH 18,4
Myers,JH 4
Niehaus,FR 7,8
Nilsson,AE 10,4
O'Donnell,AF 6,11
Parry,CL 10,12
Perry,RH 5,6
Pickett,RR 7,10
Pike,ER 6,5
Piper,CB 5,4
Prime,JH 1,3
Reierson,RL 7,14
Rhodes,EE 6,18
Riddle,NG 14,7
Robinson,MH 11,6
Rodkey,RG 7
Rosenthal,RL 5,3
Roswell,DS 6,3
Rubin,EP 10,5
Rukeyser,MS
Sakolski,AM 2
Schumann,JJJr 3,17
Seaberg,H 7,5
Shapiro,S 7,6
Shaw,ER 5,7
Silverstein,NL 7,8
Smith,PR 7,6
Spurrier,L 4,1
Stark,WR 5,7
Stehman,JW 7,8
Stevenson,JA 8,18
Taylor,WB 11
Tillotson,LG 2,6
Toohey,PG 4,11
Torgerson,HW 14,7
Towles,JK 7,11
Travers,FJ 6,5
Tucker,DS 5,1
Tuttle,PM 7,10
Valentine,RW 7,1
Valgren,VN 15,7
Wachtel,SB 11,10
Warrington,WE 7,10
Warters,DN 18,4
Waters,LL 6,14
Watson,JD 4,10
Weissman,RL 8,6
Wennstrom,JM
Weston,JF 6,7
Whitaker,AC 8,7
Willett,EF 8,4
Williams,JB 6,5
Williams,RH 7,8
Wilson,EW 18,4
Woodward,CG 7,14

10. Public Control of Business; Public Administration; National Defense and War

Abrahamson,A 11,16
Alden,LA 9,11
Anderson,TJJr 7,1
Ball,JO 3,11
Barr,RJ 1,17
Baruch,BM 11,13
Berkowitz,LM 11,19
Block,H 8,2
Blum,JW 11,3
Bohlman,HW 17,7
Bowlus,RE 15,12
Bowman,DO 17,1
Brandis,RBJr 8,6
Bray,WH 9,17
Bund,H 11,4
Burchard,JH 6,9
Butt,SM 11,1
Clark,JD 3,14
Clark,WC 17,4
Colberg,MR 1,14
Coombs,PH 11,12
Crosby,GR 18,8
Davidson,J 4,18
Davis,SWJr 11,12
Davis,WZ 6,17
Deupree,RG 11,12
Dittmer,RW 14,11
Dixon,FH 14
Dreiman,LS 14,1
Driver,JC 4,6
Duffy,JL 1,7
Duncan,JS 14,8
Duncan,VDR 6,5
Ehrlich,O 11,1
Enke,S 11,1
Ezekiel,M 11,15
Falck,E 14,4
Fleisher,A 18,17
Fox,MJJr 8,11
Fritz,WG 5,4
Furth,JH 17,1
Gettell,RG 11,12
Ginzburg,B 6,5
Glover,CA 11,17
Gordon,L 11,14
Gray,HM 14,11
Gray,JH 14,11
Gruen,ED 8,11
Haines,CE 6,5
Hale,RL 14
Haney,PE 9,5
Harbeson,RW 14,11
Harris,SE 7,8
Hart,N 6,17
Hathcock,JS 12,19
Heimann,EA 15,2
Henderson,L 11,3
Hoisington,FR 8,11
Hopkins,FW 6,8
Horner,RR 11,17
Hottenstein,MS 9,14
Kamarck,AM 8,11
Kane,JS 11,17
Kerby,JL 12,14
Kirshen,HB 9,17
Knight,BW 5,1
Kottke,FJ 11,13
Kranold,H 4,1
Krauss,DT 4,9
Kreps,TJ 11,19
Lamb,GA 13,14
Lamke,EA 3,6
Lauterbach,AT 3,8
Lee,HH 8,13
Legan,WE 11,17
Levin,W 4,11
Lewis,BW 11,1
Lipkowitz,I 11,17
Loftus,JA 9,14
Lucas,AF 11,16
Lyon,LS 11,12
Marsh,CF 14,11
Mauldon,FRE 16,4
May,JW 11
May,RA 8,17
May,S 11
McCormack,A 17,9
Merchant,EO 5,11
Michels,RK 8,9
Mitchell,GS 15,16
Modlin,GM 14,18
Mosse,R 17,1
Murphy,ME 4,11
Oakes,RH 12,5
O'Leary,PM 1,9
Pegrum,DF 14,1
Peterson,GS 1,14
Poindexter,JC 17,6
Pollard,GM 11,12
Pollock,F 3,5
Pruefer,C 3,17
Purdy,HL 14,5
Rice,SA 20,4
Richards,LJ 14,4
Riley,RH 11,6
Ritchie,F 14,18
Robinson,LR 8,6
Rosa,RV 7,9
Ross,E 3
Ross,JA 5,1
Schmidt,CT 15,3
Schmidt,EP 17,14
Searles,CK 8,6
Sharfman,IL 14,17
Shaskan,GFJr 19,11
Shepherd,HL 7,1
Shortliffe,JM 3,1
Simonds,RH 5,1
Smith,GCJr 11,4
Somers,RH
Soule,G 11,1
Southworth,C 8,11
Spencer,WH
Staebler,N 8,3
Steiner,GA 9,6
Stephens,GA 11,4
Stewart,S 11
Stocking,GW 11,17
Stone,E 7,3
Strong,ED 11,8
Struever,MN 2,17
Tator,SW 4,3
Teaf,HMJr 9,18
Terborgh,GW 6,5
Thelen,M 14,9
Thresher,BA 3,11
Umbreit,MH 14,1
VanTuyl,HL 5,8
Wallace,ES 4,7
Warner,WJ 3,18
Watkins,MW 11,1
Watson,DS 3,1
Watts,VO 17,8
Wilcox,C 11,18

11. Industrial Organization; Price and Production Policies; Business Methods

Abramson,AG 5,1
Alt,RM 1,12
Arbuthnot,CC 10,7
Arthur,HB 9,12
Backman,J 10,9
Baker,HB 17,4
Balderston,CC 17
Barnwell,GW 9,3
Barr,P 10,17
Belcher,DR 4,9
Black,HRE 12,4
Blair,JJ 17,1
Bowman,WS 10,1
Brecht,RP 17,4
Brimacombe,SH 12,5
Brown,EJ 7,17
Bullock,RJ 12,1
Burns,AR 10,2
Burrill,CL 10,4
Byrne,JM 12,5
Calkins,RD 16,8
Carter,WA 10,7
Cavin,JP 5,8
Chawner,LJ 13,10
Cook,RC 10,12
Copeland,MT 12
Coppock,JD 8,1
Dean,J 4,10
Donald,WJ 12,16
Drury,HB 17
Dutton,HP 13,17
Eakens,RHS 7,4
Edwards,CD 10,1
Eliason,RO 13,10
Endler,OL 4,13
Ennis,WD 9,13
Field,M 4,5
Filipetti,G 13,10
Finck,DH 12,19
Flowers,JB 18,10
Foley,EB 10,1
Folts,FE 17,10
Forkosch,MD 17,1
Frazer,GE 6,17
Freeman,ES 4,5
Galloway,L 17,2
Glassman,AR 12,13
Goetz,BE 1,4
Goldwasser,BC 5,18
Gordon,RA 5,10
Gow,JS 19,3
Greenberg,L 10,19
Griffin,CE 12,8
Haynes,NGW 12,2
Henderson,LG 12,4
Hession,CH 2,5
Hexner,EP 8
Hilken,HG 1,10
Hoadley,WEJr 10,17
Holloway,CW 10,17

Hopf,HA 17,9
Janssen,H 12,1
Jones,FH 9,4
Jucius,MJ 17,4
Kantor,HS 4,17
Keir,JS 12,10
Keirnan,CJ 4,13
Kern,EG 9,5
Kogel,G 9,1
Kruesi,PJ 3,9
Kusik,JE 8,7
Lewis,HT 12,10
Linder,RL 8,7
Livermore,S 10,9
Lynn,GW 10,1
Maclaurin,WR 17,5
Mandeville,MJ 12,17
Martin,SO 8,4
Mason,ES 3,1
McCrea,RC 10,6
McKee,CW 8,7
Meek,HB 14,1
Mellin,GM 17,2
Merkt,OED 17,9
Miller,JP 1,10
Mitchell,JN 10,9
Montague,GH 10
Moore,CW 2,4
Newbury,FD 10,5
Nicholls,WH 1,10
Northrop,MB 8,1
Nourse,EG 19,15
Parmelee,RC 9,4
Parrish,LL 17,13
Pearce,CA 10,18
Person,HS 3,17
Petersen,E 12,10
Plowman,EG 10,14
Pollock,KW 9,17
Prewitt,RA 17,18
Rautenstrauch,W 13,19
Reich,J 1,17
Rolph,JG 4,5
Ross,HA 12,19
Ross,TH 12,4
Schafer,R 10,4
Schuller,GJ 5,3
Segal,SA 10,5
Seidler,G 5,10
Shuman,RB 17,16
Smith,AH 4,12
Smith,GAJr 10,3
Sorkin,CA 1,7
Spriegel,WR 17
Stalson,JO 12,2
Stevens,WM 12,9
Stewart,WB 10,4
Stratton,SS 9,10
Sumner,JD 10,14
Sweet,JL 4,5
Thomson,DL 1,7
Tucker,RS 19,6
Tyson,LS 6,13
Ulmer,MJ 10,5
Unterberger,SH 18,17
Vogt,PL 20,17
Watson,MA 4,5
Wheeler,BO 5,19
Whitman,RH 4
Whitney,NR 4,5
Wimsatt,GB 19,4
Wolff,RP 12,10
Wood,R 19,10
Working,H 4,1
Zelomek,AW 19,8

12. Marketing; Domestic Trade

Adams,Q 4,16
Agnew,HE 19,2
Bader,L 19,10
Bakken,HH 19,1
Bartels,RDW 11,3
Bartlett,RW 15,17
Bedell,CO 19,11
Benton,AH 15,19
Bernfield,FM 1,17
Bethke,W 11,15
Bieber,GD 4,13
Bloomfield,D 19,17
Boatwright,JW 1,4
Boer,AE 3,4
Borden,NH 19,3
Breyer,RF 19,10
Brown,GH 8,1
Brown,LO 19,4
Cance,AE 19,14
Carmichael,DJ 4,11
Caskey,WF 18,17
Cherington,PT 4,16
Cheyney,WJ 10,1
Chrysler,RL 1,4
Chute,AH 4,11
Clark,FE 11,10
Comish,NH 19
Comstock,EG 16,4
Conrad,WEF 3,10
Converse,PD 19,10
Cowan,DRG 11,17
Cox,R 19,11
Craig,DR 10,19
Crowder,WF 11,4
Degler,CM 1,9
Dinic,CJ 11,17
Dizmang,OK 1,2
Duncan,DJ 11,19
Elder,RF 11
Ellsworth,JO 4,5
Engle,NH 8,16
Erdman,HE 19,16
Ferebee,EE 4,18
Fernald,CH
Fuller,JKG 13,11
Golovin,NE 4,5
Grether,ET 1,11
Gunnarson,AB 3,4
Hawkinson,JR 19
Hayes,SPJr 11,5
Herrold,LD
Hersey,ML 4,5
Hoos,SS 4,15
Hotchkiss,GB 2,19
Hovde,HT 19,10
Huegy,HW 9,11
Jenkins,JW 19,14
Jones,FM 11,2
Kebker,VW 19,1
Kelley,PC 19,11
Kemp,HR 8,6
Kennedy,SJ 11,5
Laird,NP 1,3
Learned,EP 13,4
Leigh,WW 11,19
Lewis,EH 8,1
Lockley,LC 1,4
Lough,WH 19,9
Lucas,JW 4
Malott,EOJr 6
Mateyo,GK 14,19
Maynard,HH 10,19
McLure,JH 15,4
Melder,FE 17,19
Mitchell,HA 11,17
Mulvihill,DF 11,19
Nielander,WA 11,4
Nystrom,PH 19,17
Oderkirk,AD 11,19
O'Leary,EB 7,9
Phelps,CW 7,1
Phelps,DM 8,11
Pino,N 8,4
Pyle,JF 11,10
Roberts,EO 9,11
Rosenbaum,CH 5,1
Sammons,W 19,10
Schneider,RJ 14,11
Seelye,AL 11,10
Sheppard,EJ 19,2
Smelser,DP 4,17
Smith,WR 14,16
Stewart,PW 11,4
Surface,FM
Tinley,JM 15,11
Tosdal,HR 8,11
Tousley,RD 19,11
Ule,GM 4,5
Vaile,RS 19,8
Wales,HG 4,15
Walker,QF 11,19
Ward,JE 1,7
White,WL 19,11
Wingate,JW 11,19
Wright,JW 15,4
Yocum,JC 10,4
Young,FA 1,15
Zerby,PE 1,3
Zimmermann,MP 15,11

13. Mining; Manufacturing; Construction

Alderfer,EB 11,17
Angus,WN 11,5
Barlow,WD 8,7
Fischer,PA 11,1
Gilbert,HN 10,17
Gill,JD 1,4
Gould,JS 20,1
James,KV 14,4
Kinzie,GR 4
Kube,HD 4,3
Lesher,CE 17,4
Marshall,SM 5,4
McBride,JW 11,10
Moloney,JF 12,15
Mullenbach,P
Pogue,JE 4,3
Rogers,HO 17
Saurino,B 4,11
Sheftel,HB 17,1
Siegel,IH 4,14
Topkis,BH 15,17
Ulmer,CD 14,11
Warner,RK 1,17
West,RR 17,11
Worthing,MW 11,4
Zavoico,BB 9

14. Transportation; Communication; Public Utilities

Aitchison,B 4,10
Armstrong,AB 2,1
Ashton,H 4
Baker,GP 11,10
Bauer,J 4,10
Behling,BN 10,1
Berglund,A 11,1
Bigham,TC 10,6
Blaine,JCD 12,11
Bonbright,JC 9,1
Bond,FA 10,1
Bridenstine,MG 12,1
Bryan,LA 16,10
Bucknam,RF 10,15
Cady,EL 11,5
Caine,WE 10,4
Canfield,JM 5,1
Carlson,KE 8
Chen,HH 1,7
Clemens,EW 11,1
Cooley,HB 16,4
Corry,OC 11,4
Cover,VD 1,10
Crumbaker,C 10,1
Cunningham,WJ 10,9
Dadisman,AJ 20,15
Daggett,S 10,9
Dannenberg,FM 10,16
David,PT 10,17
Dearing,CL 10,8
Dewey,RL 10,5
Dinwiddie,GS 4,9
Dirlam,JB 9,10
Dixon,RC 10
Drutzu,ST 10,4
Dykstra,D 1,2
Eberle,GJ 12,20
Erb,DM 2,10
Fair,ML 10,8
Faust,LM 17,5
Felde,LS 8,16
Fetter,TA 10
Fischer,HS 4,10
Fitzgerald,LE 7,10
Fleming,RD 16,1
Gadeholt,B 4,5
Goetz,JH 10,8
Greenway,JC 10,6
Hall,SM 4,5
Healy,KT 11
Heiss,CA 9,18
Hellebrandt,ET 9,2
Hellman,R 10,19
Hellmuth,WFJr 4,10
Herz,H 4,1
Hill,DA 11,5
Homberger,LM 10
Huelster,LF 9,7
Jackman,WT 15,9
Jackson,DC 13
John,SW 16,10
Johnson,ER 10,2
Jones,E 10,11
Jones,HF 2,11
Junkin,WR 10,7
Kelso,H 2,4
Kennedy,WF 10,1
King,HJ 7,4
Knaf,HG 3,19
Kobrock,JP 9,5
Koontz,HD 10,11
Liebner,WC 13

Lindman,BH 6,16
Locklin,DP 10,3
Losee,GC 10,9
Lynch,ES 16,1
Lyne,JG 3,10
Malott,EO 9,10
Marx,DJr 8,1
Mayer,LK 9,4
McNeill,CE 19,1
Mennis,EA 9,7
Merriam,BJ 12,3
Meyer,BH 10,9
Miller,JL 10,16
Miller,SL 3,8
Morehouse,EW 10,4
Morgan,CS 10,4
Nelson,JC 11,1
Nightingale,EA 6,4
Orten,MD 3,11
Osborn,WC 13
Parmelee,JH 3,4
Raper,CL 6
Robinson,ME 10,2
Rose,JR 1,2
Ruggles,CO 10,9
Schultz,R 17,1
Sherrington,CER 16,17
Simpson,FR 10,7
Smith,CW 4,6
Smith,JM 16,8
Smith,NL 10
Snell,HK 10,16
Spencer,FA 10
Spottswood,AD 16,3
Thorp,WL 11,10
Troxel,CE 10,5
Tucker,RH 6,17
Ueland,A 4,3
Vanderblue,HB 9,1
VanMetre,TW 2,1
Vickery,CWJr 4,6
Waltersdorf,MC 17,6
Wendt,EF 1

15. Agriculture; Forestry; Fisheries

Anderson,DS 4,19
Arner,GBL 8,20
Atkinson,LJ 4,8
Ballinger,RA 12,6
Benedict,MR 8,17
Black,AG 8,7
Black,JD 12,11
Brand,CJ 12,4
Burdick,RT 17,1
Canning,JB 19,4
Case,HCM 19,3
Cavert,WL
Cox,AB 12,8
Craig,GH 1,7
Dalisay,AM 4,1
Daugherty,MM 6
Davis,JS 19,8
Dowell,AA 12,8
Falconer,JI 3,1
Farnsworth,HC 2,19
Filley,HC 19,12
Fox,MJ 9,7
Fulmer,JL 1,13
Gardner,KB 19,11
Gee,W 1,4
Gillett,RL 4,12
Grimes,WE 3,16
Harlan,CL 4,12
Haynes,LW 1,17
Heiby,EP 8,1
Hicks,WT 12,3
Higdon,ET 19,1
Hobson,A 8,12
Hodges,JA 4,16
Irwin,HS 12,4
Ise,J 1,3
Jesness,OB 8,12
Johnson,EC 7,16
Johnson,OR 2,3
Johnson,SE 10,16
Johnson,TV 20,6
Jordan,GL 5,1
Keller,HJr 1,11
Koller,EF 12,9
Labadie,J 4,12
Lanham,BTJr 16,12
Larsen,HC 6,4
Larson,AL 12,11
Lemon,SC 16,19
Marquis,RW 10,1
Mason,JE 10,16
McPherson,WW 1,19
Mehl,P 12,4
Merrill,E 19,10
Mighell,AT 1
Moorhouse,LA 12
Mortenson,WP 4,12
Murray,WG 7,2
Musbach,WF 16,10
Nelson,RW 16,1
Nicholls,WD
Omohundro,EH 19,12
Parsons,OA
Peters,LAH 8,11
Pettet,ZR 11,4
Plonsky,A 1,4
Renne,RR 6,10
Robotka,F 12,11
Ronk,SE 12,5
Rozman,D 3,6
Russell,R 19,12
Schultz,TW 8,4
Shepherd,GS 11,1
Shields,TK 4,12
Taylor,HC 8,16
Taylor,PS 17,20
Timmons,JF 8
Tolley,HR 11,10
von Ciriacy-Wantrup,S 5,1
Waite,WC 4,19
Wehrwein,GS 16
Wentworth,EN
Wilcox,WW 19,2
Wilson,ML 19,1
Worsley,TB 7,1

16. Economic Geography; Regional Planning; Urban Land; Housing

Adamson,WM 4,19
Baker,O 20,3
Beede,KC 5,19
Bloom,MR 1,5
Bloomberg,LN 8,11
Bodfish,M 9,3
Bourne,WN 17,19
Bryant,LC 10,2
Burroughs,RJ 7,9
Buttenheim,HS 6,10
Colin,DH 17,20
Cooper,CL 1,14
de Tarnowsky,I 18,7
Duggar,GS 6,10
Fisher,EM 7,10
Garnsey,ME 11,1
Gross,BM 11,10
Harris,WC 7
Harrison,SM 17,18
Hayden,BR 10,19
Hoover,EMJr 4,10
Hoyt,H 20,5
Kline,HB 14,10
Landon,CE 14,12
McCreary,JW 1,2
McLaughlin,GE 13,4
Monchow,HC 10,2
Nurnberg,M 6,9
Orchard,JE 13,15
Ostrolenk,B 15,14
Otte,HF 1,2
Perring,K 14,1
Phillips,MO 14,8
Ratcliff,RU 11,10
Rowlands,DT 10,7
Ryan,FW 7,10
Schmidt,RR 19,10
Stapp,P 6,13
Tannenbaum,F 15,17
Tough,R 18
Van Sickle,JV 6,20
Watson,JP 14,10
Wehrwein,CF 6,1
Wendt,PF 10,17
Wenzlick,R 5,13
Wood,EE 19
Young,BO 10,5

17. Labor and Industrial Relations

Anderson,KAW 7,1
Andrews,JB 18
Ansón,CP 16,12
Anthony,DE 18,19
Arnow,P 10,8
Bailer,LH 18,10
Baker,EF 11,9
Bakke,EW 18,3
Balcom,BR 11
Bambrick,JJJr 11,4
Barbash,J 10
Barkas,BW 11,2
Beckner,ER 3,19
Bell,DE 11,3
Bengston,KJ 16,7
Bennett,WW 7,1
Berger,AH 18,2
Bernhard,CG 3,1
Bird,FH 11,18
Bloom,GF 1,5
Bolden,NR 1,18
Boone,G 10,3
Bortz,NM 14,10
Bouvier,EE 18,3
Bowden,W 2,1
Brainard,HG 1,9
Braunthal,A 18,6
Bridgman,HA 19,3
Brissenden,PF 18,10
Brown,DV 11,10
Brown,EC 3,18
Brown,JD 18,3
Brown,LC 1,3
Brown,WM 5,16
Buechel,HT 6,7
Burke,JW 8,7
Burns,RK 1,3
Burris,EC 9,6
Cahill,MC 19
Carlton,FT 10,5
Carpenter,OF 10,2
Carroll,MR 18,3
Carter,LH 18,1
Carwell,J 11,10
Cassidy,WJ 3,1
Catlin,WB 1,12
Chace,JE 16,9
Childs,FE 4,1
Christenson,CL 10,1
Christman,FL 7,10
Cleland,JS 1,20
Cogen,C 19,7
Cohen,MA 18,10
Commons,JR 1
Court,AT 3,11
Cowdrick,ES 18,13
Crook,WH 20
Daugherty,CR 1,5
Davenport,DH 10,4
Davey,HW 10,11
Davis,HB 19,2
Davison,S 2
Derber,M 3,10
de Vyver,FT 18,2
Diamond,HM 20
Donnelley,TE 1
Doody,FS 1,5
Douty,HM 1,2
Duncombe,HLJr 4,20
Eckler,AR 4,14
Eisenstadt,NP 11,19
Elliott,M 18,2
Ennis,JH 20,10
Feldman,H 11,18
Ferguson,RH 18,2
Finger,ME 3,10
Fischer,H 11,2
Fitch,JA 18,2
Fitzgerald,MJ 10,19
Friedberg,M 6,1
Fritzemeier,LH 4,5
Gaffey,JD 10,5
Gagliardo,D 18,1
Galenson,W 2,4
Gaum,CG 18,5
Givens,MB 18,10
Glocker,TW 9,7
Gluck,E 19,18
Gooden,OT 10,4
Guggenheimer,A
Guild,LR 11,12
Gulick,CA 10,18
Haas,FJ 3,2
Hall,WS 10,6
Halverson,GC 8,18
Hamilton,RS 1,10
Handsaker,M 18,6
Harbison,FH 18,10
Hatch,LW 3
Hatton,WJ 1,10
Hawk,EQ 1,6
Hedges,MH 19,2
Helbing,AT 10,3
Heneman,HGJr
Herrmann,H
Hill,JC 2,3
Hines,LG 1,10
Hinrichs,AF 10,3

Hohman,EP 18,11
Holder,FC 4,1
Hopkins,WS 18,3
Hotchkiss,WE 1,11
Howard,CH 18,1
Howard,TJr 11,19
Howell,PL 10,3
Jacobs,AT 18,10
Jensen,VH 2,18
Jones,AH 1,8
Kaltenborn,HS 1,18
Kelley,JW 1,2
Kellogg,RM 19,20
Kelly,MA 10,18
Kerr,C 20,15
Kershaw,JA 1,7
Killingsworth,CC 18,10
Kirby,RM 1,4
Kirk,W 20,18
Kunst,EJ 18,19
Lay,CF 11,4
Leese,C 1,11
Leiserson,WM 10,18
Leonard,JL 9,1
Leonard,WN 14,2
Lester,RA 7,5
Levin,SM 20,19
Lindsay,SM 18,2
Livernash,ER 11,18
Logan,HA 1,19
Lubin,I 1,4
Lukens,SJ 11,12
Lumpkin,KD 2,18
Luten,DB 5,3
Lutzker,S 18,4
Magnusson,L 20
Maher,AG 18,10
Maneval,RK 14,4
Marquardt,PL 1,2
Mayo,GE
McCabe,DA 3,19
McConagha,WA 3,6
McNatt,EB 18
Meeker,R 7,5
Melcher,W 8
Miller,ET 8,1
Miller,GW 19,1
Mitchell,AW 2,18
Mittelman,EB 18,10
Moe,FB 9,6
Morgner,A 1,11
Morley,BR 18,16
Mulliken,OE 18,15
Murray,EB 7,1
Myers,AH 10,6
Myers,CA 18,11
Myers,HB 18,4
Myers,RJ 4,18
Newman,PC 11,18
Norgren,PH 10,13
Northrup,HR 20,1
Norton,TL 18,1
O'Beirne,BE 10,3
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FLORIDA

Babson Park

Kilduff, V. R.
Sherman, J. H.

Camp Blanding

Ardizoni, C.

Coral Gables

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Wolff, R. P.

De Land

Baer, W. N.
Larcom, R. C.

Delray Beach

Cist, F. S.

Fruitland Park

Frame, W. A.

Gainesville

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Pensacola

Armstrong, H. C.

St. Petersburg

Pub. Lib.

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Meek, G. P.

Tampa

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Univ. of Tampa Lib.

West Palm Beach

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Winter Park

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Atlanta

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Fed. Res. Bank Lib., Fed. Res. Sta.
Georgia School of Tech. Lib.
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Middle Georgia Col., Bd. of Regents

Collegeboro

Georgia Teachers Col. Lib.

Decatur

Agnes Scott Col. Lib.

Emory University

Emory Univ. Lib.
Griffin, A.
Martin, B. F.
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Fort Benning

Gedanken, I.

Fort Valley

Fort Valley State Col.

Industrial College

Georgia State Col. Lib.

Macon

Redlich, F. L.
Wesleyan Col., Candler Memorial Lib.

Milledgeville

Georgia State Col. for Women Lib.

Oglethorpe University

Oglethorpe Univ. Lib.

Rome

Shorter Col. Lib.

Valdosta

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HAWAII

Honolulu

Lib. of Hawaii
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Moscow

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Pocatello

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ILLINOIS

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Centralia

Centralia Junior Col. Lib.

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Decatur

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Elmhurst

Elmhurst Col. Lib.

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Principia Col. Lib.

Eureka

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Evanston

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Greenville Col. Lib.

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Joliet

Cohenour, V.

Kenilworth

Amberg, A. A.

La Grange

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Barat Col. of the Sacred Heart
Boedecker, K. A.
Johnson, E. A.
Keller, L. A.
Lake Forest Col. Lib.

Lebanon

McKendree Col.

Lisle

St. Procopius Col. Lib.

Macomb

Seal, H. C.
Western Illinois State Teachers Col. Lib.

Monmouth

Cleland, J. S.

Naperville

North Central Col. Lib.

Normal

Illinois State Normal Univ. Lib.

Oak Park

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Lowden, F. O.

Palatine

Plonsky, A.

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Peru

St. Bede Col. Lib.

Quincy

Quincy Col. Lib.
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River Forest

Rosary Col. Lib.

Rockford

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Rockford Col. Lib.

Rock Island

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Leavitt, W. L.
Lee, F. E.
Litman, S.
Locklin, D. P.
Machell, J. V., Jr.
Mandeville, M. J.
McNatt, E. B.
Morey, L.
Nolen, R. M.
Robb, W. C.
Rose, A.
Ruggles, C. G.
Scovill, H. T.
Thompson, C. M.
Underhill, H. F.
Univ. of Illinois Lib., Periodical Dept.
Van Arsdell, P. M.
Whalen, O. L.
Working, E. J.
Wright, L.

Waukegan

Waukegan Pub. Lib.

Western Springs

Mitchell, G. W.

Wheaton

Wheaton Col. Lib.

Wilmette

Emmet, B.
Kohler, E. L.
Maynard, E. L.
Mills, J. A.

Winnetka

Peterson, F. B.
Shaw, A. W.

Yorkville

Mighell, A. T.

INDIANA

Bloomington

Alm, I. W.
Batchelor, J. A.
Braden, S. E.
Christenson, C. L.
Cleveland, W. C.
Crawford, M. M.
Hadley, C. D.
Haring, H. A.
Hedges, J. E.
Indiana Univ. Lib.
Manes, A.
McIntyre, F. E.
Miller, T. A.
Mills, M. C.
Moffat, J. E.
Sauvain, H. C.
Silverstein, N. L.
Wells, H. B

Collegeville

St. Joseph Col. Lib.

Crawfordsville

Ormes, F. R.
Shearer, W. W.
Sparks, F. H.

Evansville

Long, D.
Pub. Lib., 11 N.W. 5th St.
Rosenbaum, C. H.

Ft. Wayne

Ft. Wayne Pub. Lib.
Gushing, H. G.
Travers, F. J.

Franklin

Franklin Col. Lib.

Goshen

Kreider, C.

Greencastle

DePauw Univ. Lib.
Jome, H. L.
Ritchie, F.

Hanover

Hanover Col. Lib.

Holy Cross

Joseph, M. E.

Indianapolis

Bailey, Louis J., Indiana State Lib.
Baker, H. B.
Barrett, D. C.
Bridenstine, M. G.
Butler Col. Lib.
Camp, C. B.
Efroymson, C. W.
Harrell, S. R.
Indiana Central Col.
Indianapolis Pub. Lib., Reading Room Dept., St. Clair Sq.
Luten, D. B.
Ross, M. O.
Van Metre, R. M.

Kokomo

Haynes, L. W.
Shields, P. O.

Lafayette

Owen, W. V.
Purdue Univ. Lib.
Thomas, R. G.
Wiley, J. W.

La Porte

Hupp, B. W.

New Albany

Pub. Lib.

North Manchester

Manchester Col. Lib.

Notre Dame

Bender, W. C.
Calkins, F. J.
Fitzgerald, M. J.
Kent, R. P.
Sheehan, J. H.
Univ. of Notre Dame

Peru

Edwards, R. E.

Richmond

Earlham Col. Lib.
Stinneford, C. L.

South Bend

Coyne, W. J.
Hermens, F. A.
Larimore, T. R.
South Bend Pub. Lib.
Watson, J. D.

Terre Haute

Bohan, R. T.
Emeline Fairbanks Mem. Lib.
Indiana State Teachers Col. Lib.
Mitchell, W. F.

Valparaiso

Valparaiso Univ. Lib.

West Baden Springs

West Baden Col.

West Lafayette

Estey, J. A.
Sheppard, E. J.

IOWA

Ames

Allen, E. D.
Hart, A. G.
Hart, D. J.
Hopkins, J. A., Jr.
Hoyt, E. E.
Iowa State Col. Lib.
Lemke, B. C.
Morse, R. L.
Murray, W. G.
Nicholls, W. H.
Oderkirk, A. D.
Reid, M. G.
Robotka, F.
Schickele, R. W.
Schultz, T. W.
Shepherd, G. S.
Thompson, S. H.
Wilcox, W. W.
Wright, W.

Cedar Falls

Iowa State Teachers Col. Lib.
Pritchard, L. J.

Cedar Rapids

Macy, C. W.

Davenport

Collins, W. J.

Decorah

Luther Col. Lib.

Des Moines

Des Moines Pub. Lib., 100 Locust St.
Drake Univ. Lib.
State Traveling Lib., Historical Bldg.
Warters, D. N.

Dubuque

Carnegie Stout Pub. Lib.
Loras Col. Lib., 14th and Alta Vista Sts.
Univ. of Dubuque Lib.

Fairfield

Parsons Col. Lib.

Forest City

Person, W. A.

Grinnell

Grinnell Col. Lib.
Strong, E. D.

Indianola

Guyton, P. L.

Iowa City

Bowen, H. R.
Cherrington, H. V.
Davies, G. R.
Hickman, C. A.
Miller, S. L.
Phillips, C. A.
Smith, W. R.
State Univ. of Iowa Lib., Lib. Annex

Lamoni

Graceland Col. Lib.

Le Mars

Fireoved, E. L.

Mason City

Mason City Pub. Lib.

Mt. Vernon

Cornell Col. Lib.
Ennis, J. H.

Oskaloosa

Penn Col. Lib.

Pella

Central Col. Lib.

Sioux City

Sioux City Pub. Lib., Main Adult Dept., 6th and Jackson St.

Story City

Malone, C. C.

Waverly

Wartburg Col. Lib.

KANSAS

Atchison

Baska, L. M.
Schroll, M. A.

Baldwin

Guest, H. W.

Emporia

Kansas State Teachers Col. Lib.
Pickett, R. R.

Ft. Scott

Pollock, K. W.

Hays

Clover, V. T.
Cole, D. M.
Ft. Hays Kansas State Col. Lib.

Hillsboro

Tabor Col. Lib.

Independence

Independence High School Lib.

Kansas City

Junior Col. Lib., 824 State
Pub. Lib., Huron Sq.

Lawrence

Dade, E. B.
Gagliardo, D.
Howey, R. S.
Ise, J.
Jensen, F. B.
Jensen, J. P.
Seelye, A. L.
Stockton, F. T.
Univ. of Kansas, Univ. Ext. Div.
Univ. of Kansas Lib., Period. Dept.
Waters, L. L.

Lindsborg

Bethany Col. Lib.

Manhattan

Grimes, W. E.
Gunselman, M. A.
Hodges, J. A.
Kansas State Col. Lib.

McPherson

Olson, O. A.

North Newton

Bethel Col. Lib.

Ottawa

Ottawa Univ. Lib.

Pittsburg

Kansas State Teachers Col., Porter Lib.

Pratt

Junior Col. Lib.

Salina

Viau, J. M.

Sterling

Douglas, G. A.
Sterling Col. Lib.

Topeka

Kansas State Lib., State House
Marcoux, D.C.
Martin, E. W.
Topeka Free Pub. Lib.
Washburn Municipal Univ. Lib.
Wales, H. G.

Wichita

Friends Univ. Lib.
Ricketts, F. M.
Wichita City Lib.

Winfield

Southwestern Col. Lib.

KENTUCKY

Barbourville

Union Col. Lib.

Berea

Berea Col. Lib.

Bowling Green

Bowling Green Bus. Univ. Lib.
McKinney, D. H.
Milroy, R. R.
Western Kentucky State Teachers Col. Lib.

Danville

Centre Col. Lib.
Leese, C.

Frankfort

Unemp. Comp. Com., Dept. of Ind. Rela.

Lexington

Bekker, K.
Best, H.
Carpenter, C. C.
Carter, L. H.
Hall, W. S.
Jennings, W. W.
Ketchum, M. D.
Martin, J. W.
McVey, F. L.
Nicholls, W. D.
Palmer, E. Z.
Price, H. B.
Sullivan, R.
Transylvania Univ. Lib.
Univ. of Kentucky Lib.
Wiest, E.

Louisville

Louisville Free Pub. Lib., 4th and Library Pl.
Reed, E. W.
Slavin, S., c/o Y.M.H.A., S. 2nd St.
Univ. of Louisville Lib., Belknap Campus

Murray

Murray State Teachers Col. Lib.

Richmond

Eastern Kentucky State Teachers Col. Lib., Lancaster Ave.
Moore, W. J.

LOUISIANA

Baton Rouge

Barnes, W. P., III
Bowlus, R. E.
Bradbury, R. W.
Gile, B. M.
McCracken, H. L.
Scroggs, W. O.
Trant, J. B.

Camp Livingston

Levitan, S.

Hammond

Southeastern Louisiana Col. Lib.

Lafayette

Clemens, E. W.
Phillips, W. J., Jr.
Southwestern Louisiana Inst. Lib.

Natchitoches

State Normal Col. Lib.

New Orleans

Bonnett, C. E.
Buchan, L. J.
Cronin, J. A.
Dillard Univ. Lib.
Dinwiddie, G. S.
Elsasser, R. W.
Jones, A. H..
Howard-Tilton Mem. Lib., Audubon Pl. and Feret
Loyola Univ. Lib., 6363 St. Charles Ave.
Mitchell, H. A.
New Orleans Pub. Lib.
Phelps, E.
Southern Forest Exp. Sta., Fed. Office Bldg.
Upton, R. M.
VanKirk, J. C.
Xavier Univ., New Unit, Washington and Pine Sts.

Ruston

Ford, A. W.
Louisiana Poly. Inst. Lib.
Smolinski, H. J.

Shreveport

Centenary Col. Lib.

University

Ballinger, R. A.
French, R. W.
Louisiana State Univ., Agric. Econ. Lib.
Louisiana State Univ. Lib.
Preston, S. W.

MAINE

Bangor

Bangor Pub. Lib.

Brunswick

Abrahamson, A.
Bowdoin Col. Lib.
Brown, P. M.
Catlin, W. B.
Cushing, M. B.
Lusher, D. W.

Damariscotta Mills

Hodgkins, A. R.

Lewiston

Bates Col. Lib.
Carroll, J. M.
Winters, R. A.

Orono

Chadbourne, W. W.
Kirshen, H. B.
Univ. of Maine Lib.

Portland

Jordan and Jordan, Fidelity Bldg.

Waterville

Breckenridge, W. N.
Morrow, C. H.
Wilson, W. C.

MARYLAND

Annapolis

Schaffner, J. H.
U. S. Naval Academy Lib.

Baltimore

Austrian, J.
Bullock, R. J.
Carlson, R. E.
Cooper, H. E.
Cronin, J. F.
Eisenberg, G. G.
Enoch Pratt Free Lib.
Evans, G. H., Jr.
Goucher Col. Lib.
Heaney, N. S.
Johnson, Janet B., Patterson Park High School, Pratt and Ellwood St.
Killingsworth, C. C.
Loftus, J. A.
Marburg, T.
Morgan Col. Lib.
Morrissy, E.
Notre Dame Col. Lib., N. Charles St.
Pancoast, E.
Paschal, E.
Peabody Inst.
Reynolds, A. J.
Reynolds, L. G.
St. Mary's Sem. Lib., Philosophy Dept., N. Paca St.
Shriver, G. M.
Stevens, W. M.
Stowe, Robinson B., 2631 St. Paul St.
Univ. of Baltimore Lib.
Wentworth, E. C.
Wermel, M. T.
Weyforth, W. O.
Wiesenfeld, H. M.
Wolman, A.

Bethesda

Bortz, N. M.
Cale, E. G.
Cavin, J. P.
Driver, J. C.
Fulmer, J. L.
Garlock, F. L.
Hengren, R. E.
Hilken, H. G.
Jarrett, J. M.
Kenely, M. L.
Kennedy, W. F.
Kerschbaum, P. R.
Kinzie, G. R.
McDiarmid, O. J.
Norgren, P. H.
Potter, A. A.
Reeve, J. E.
Riley, R. H.
Welch, E. H.
Winslow, H. J.
Yntema, D. B.

Chestertown

Washington Col., George Avery Bunting Lib.

Cheverly

Denison, E. F.
Snell, H. K.

Chevy Chase

Adams, Q.
Ashton, H.
Bernhardt, J.
Black, H. R. E.
Chawner, L. J.
Cooley, H. B.
Crawford, A. W.
Ferebee, E. E.
Fishburn, J. T.
Gardner, W. R.
Garfield, F. R.
Goldenweiser, E. A.
Gordon, L.
Gross, B. M.
Hayes, S. P., Jr.
Jenkins, W. B.
Labovitz, I. M.
Maher, A. G.
Mann, F. K.
Marshall, L. C.
Murray, M. G.
Riggleman, J. R.
Rogers, H. O.
Schmidt, O. A.
Steiner, G. A.
Thomas, W.
Thompson, D. S.
Tierney, J. L.
Unkrich, R. C.
Williams, K. B.
Wilson, M. L.
Wynne, W. H.
Young, J. P.

Clinton

Massel, J. M.
Massel, M. S.

College Park

Clark, L. H.
Gay, M. C.
Gruchy, A. G.
Hagen, E. E.
Hawkins, E. D.
Univ. of Maryland Lib.
Wyckoff, V. J.

Emmitsburg

Mt. St. Mary's Col.
St. Joseph's Col.

Forest Glen

Kebker, V. W.

Frederick

Reddick, O. I.

Garrett Park

Nelson, J. C.

Greenbelt

Lebergott, S.

Green Meadows

Greenberg, L.

Halethorpe

Smith, C. W.

Hyattsville

Shirley, R. V.
Taeuber, C. F.
VanSant, E. R.

Kensington

Hoover, E. M., Jr.
Mitchell, J. N.

Lanham

Lester, A. H.

Middle River

Troxell, J. P.

Mt. Rainier

Burkhead, J. V.
Farley, J. T.
Mosak, J. L.
Prewitt, R. A.
Shiskin, J.

New Windsor

Jefferis, R. P., Jr.

Rockville

Redpath, J. M.

Silver Spring

Andrus, J. R.
Buchanan, A.
Cummings, H. J.
Deupree, R. G.
Dozier, H. D.
Gregory, W. L.
Hasse, A. R.
Mayer, R. W.
McPherson, W. H.

Ronk, S. S.
Stapp, P.
Turner, R. C.
Ulrey, I. W.

Takoma Park

Bacon, M. A.
Smith, J. M.
Wiers, P.
Wood, R.

Towson

Maryland State Teachers Col. Lib.

Trappe

Leonard, N. H., Jr.

Westminster

Western Maryland Col. Lib.

Westmoreland Hills

Falck, E.

MASSACHUSETTS

Amherst

Amherst Col. Lib.
Cance, A. E.
Chandler, L. V.
Massachusetts State Col. Lib.
Rozman, D.
Taylor, G. R.

Arlington

Finger, M. E.

Babson Park

Babson Inst. Lib.
Babson, R. W.

Belmont

Crafts, P. C., Jr.
Huse, C. P.

Boston

Abbott, C. C.
Arendtz, H. F.
Bass, L. W.
Bliss, C. A.
Bloomfield, D.
Borden, N. H.
Boston Athenaeum, 10½ Beacon St.
Boston Pub. Lib., Copley Sq.
Boston Pub. Lib., Kirstein Bus. Lib., 20 City Hall Ave., 1st Fl.
Boston Univ., Bus. Admin. Lib., 685 Commonwealth Ave.
Boston Univ. Lib., Col. of Lib. Arts, 688 Boylston St.
Bryant, E. S.
Cahouet, R. H.
Cobb, W. C.
Copeland, M. T.
Dept. of Labor and Industries Lib., 473 State House
de Vegh, I.
Div. of Unemp. Comp., 881 Commonwealth Ave.
Donaldson, M. H.
Donham, W. B.
Doriot, G. F.
Ebersole, J. F.
Faxon, F. W., Co., For Amer. Lib. in Paris, 83 Francis St.
Field, M.
Filene, L.
Folts, F. E.
Friedberg, M.
Gilbert, H. N.
Gragg, C. I.
Gras, N. S. B.
Gruener, J. R.
Hamilton, R. S.
Hanson, A. W.
Hosmer, W. A.
Hubbard, J. B.
Hunt, P.
Kelley, J. W.
Lagerquist, W. E.
Larson, H. M.
Learned, E. P.
Lewis, H. T.
Locke, H. D.
Lukens, S. J.
Massachusetts State Lib., State House
Masson, R. L.
Mayo, G. E.
McDonough, C. A.
Meriam, R. S.
Merrill, E.
Myers, A. H.
Northeastern Univ. Lib., 360 Huntington Ave.
Packard, R. M.
Perkins, J. S., Boston Univ., 688 Boylston St.
Robbins, E. C.
Ruggles, C. O.
Sanders, T. H.
Schlagenhauf, M. J.
Selekman, B. M.
Simmons Col. Lib., 300 The Fenway
Simmons Col. Lib., School of Social Work, 18 Somerset St.
Slichter, S. H.
Smith, D. T.
Smith, G. A., Jr.
Snider, J. L.
Stalson, J. O.
Sutcliffe, W. G.
Sweet, H. N.
Swonger, C. W.
Teachers Col. of Boston Lib., Huntington Ave.
Thomas, H. P.
Tosdal, H. R.
Ullman, A.
Wernette, J. P.
Wilson, E. B.

Bradford

Bradford Junior Col. Lib.

Bridgewater

State Teachers Col. Lib

Brookline

Brown, D. V.
DiVenuti, B.
Eaves, L.
Sommaripa, G. G.

Cambridge

Bennion, E. G.
Black, J. D.
Bourne, W. N.
Brown, T. H.
Burbank, H. H.
Butters, J. K.
Canfield, A. J.
Chamberlin, E. H.
Cole, A. H.
Cole, B. S.
Conant, L.
Crum, W. L.
Cunningham, W. J.
Denis, Reid M., 128 Oxford St.
Dewey, D. R.
Domashevitsky, J.
Dunlop, J. T.
Exter, J. E.
Freeman, R. E.
Frickey, E.
Glover, J. D.
Haberler, G.
Hall, C. A., Jr.
Halley, D. M.
Hansen, A. H.
Harris, S. E.
Harvard Col. Lib., Serial Div.
Harvard Univ., Com. on Res. in the Soc. Sci., 38-40 Holyoke House
Harvard Univ., Law School Lib.
Harvard Univ. Lib.
Hersey, M. L.
Horowitz, D. L.
Jackson, D. C.
Leontief, W. W.
Maclaurin, W. R.

Massachusetts Inst. of Tech., Massachusetts Ave.
Minsky, H. P.
Monroe, A. E.
Myers, C. A.
Radcliffe Col. Lib.
Rogers, B. A.
Rosa, R. V.
Samuelson, P. A.
Schumpeter, J. A.
Segal, M. R.
Sprague, O. M. W.
Stettner, W. F.
Stratton, S. S.
Thresher, B. A.
Tsuru, S.
Tucker, D. S.
Usher, A. P.
Williams, J. H.
Wilson, E. W.
Woolly, H. B.

Charlestown

Calder, P. R.

Chestnut Hill

Boston Col. Lib., Bus. School
Boston Col. Lib., Univ. Heights
Carmichael, D. J.
Foley, E. B.

Concord

Cherington, C. R.

Fall River

Fall River Pub. Lib.

Fitchburg

State Teachers Col. Lib.

Framingham

Keir, J. S.

Hanover

Hunt, B. C.

Haverhill

Haverhill Pub. Lib.

Leominster

Trafton, G. H.

Longmeadow

Clark, R. N.
Ronk, S. E.

Longmeadow-Springfield

Richard Salter Storrs Lib.

Medford

Halm, G. N.
Livernash, E. R.
Staley, A. E.

Melrose

McFeaters, M. C.

Needham

Morss, N.

Newton

Burney, W. J.
Newton Free Lib.

Newton Centre

McKinley, S. J.
Ullian, F. S.

Newtonville

Kobrock, J. P.

Northampton

Douglas, D. W.
Faulkner, H. U.
Forbes Lib.
Lowenthal, E.
Lumpkin, K. D.
Orton, W. A.
Smith Col. Lib.
Willett, E. F.

Norton

Hidy, M. E.
Jennings, H. C.
Wheaton Col. Lib.

Quincy

Bowen, Loy J., P.O. Box 293

Roxbury

Swift, P. E.

South Acton

Roberts, D. R.

Southbridge

Parkinson, R.

South Hadley

Dietrich, E. B.
Gillim, M. H.
Hewes, A.
Mt. Holyoke Col. Lib.

Springfield

Cross, H. W.
Griggs, F. D.
Lieson, W. A.
Shattuck, L. A., Jr.
Wellman, H. C.

Tufts College

Manly, L. F.
Shaulis, L. L.
Tufts Col. Lib.

Waban

Estabrook, V. T.
Lake, W. S.

Wakefield

Belmore, C. W.
Comins, H. N.

Waltham

Luce, R.

Watertown

Cronin, J. W.

Wellesley

Curtiss, E. A.
Freeman, E. S.
Jenks, L. H.
Killough, H. B.
Killough, L. W.
Smith, E. L.
Smith, L.
Wellesley Col. Lib.

Wellesley Hills

Elder, R. F.
Peterson, N. E.
Quirin, E. L.
Williams, J. B.

West Newton

Crosby, G. R.
Loomis, R. H.

West Roxbury

O'Leary, J. M.

Williamstown

Dittmer, R. W.
McLaren, W. W.
Smith, W. B.
Sweezy, A. R.
Walsh, J. R.
Williams Col. Lib.

Winchester

vonMering, O. O.

Worcester

Brandenburg, S. J.
Clark Univ. Lib.
Crompton, G.
Dewey, F. H., Jr.
Duffy, J. L.
Dumas, Charles E., 18 Harvard St.
Erickson, R. A.
Holy Cross Col. Lib.
Lucas, A. F.
Maxwell, J. A.
Melder, F. E.
State Teachers Col., 486 Chandler St.

Worcester Free Pub. Lib.
Worcester Poly. Inst.

MICHIGAN

Albion

Albion Col. Lib.
Terpenning, W. A.

Alma

Unstad, L. K. L.

Ann Arbor

Anderson, G. R.
Biggs, R. M.
Bingham, R. H.
Bond, F. A.
Bowman, D. O.
Briggs, R. P.
Davisson, M. M.
Dickinson, Z. C.
Elliott, M.
Ford, R. S.
Griffin, C. E.
Haber, W.
Jamison, C. L.
Laing, L. L.
Palmer, W. B.
Paton, W. A.
Peterson, G. S.
Phelps, D. M.
Pub. Lib., E. Huron and N. Thayer St.
Ratcliff, R. U.
Riegel, J. W.
Rodkey, R. G.
Roller, J. A.
Schindler, J. S.
Sharfman, I. L.
Shepard, E. F.
Univ. of Michigan, Gen. Lib.
Watkins, L. L.

Berrien Springs

Ryden, E. D.

Detroit

Anderson, K. A. W.
Badger, R. E.
Baker, O. P.
Carr, H. C.
Cassidy, W. J.
Court, A. T.
Detroit Pub. Lib.
Du Brul, S. M.
Ekland, L. M.
Ellis, R. G.
Fitzgerald, L. E.
Kirk, L. K.
Landuyt, B. F.
Levin, S. M.
Long, T. G.
Marygrove Col. Lib.
Michigan C.I.O. Council, 803 Hofmann Bldg.
Pearson, O. P.
Seltzer, L. H.
Stone, E. A.
Troxel, C. E.
Univ. of Detroit Lib., Mc-Nichols Rd. at Livernois
Wayne Univ. Lib., 4841 Cass Ave.

East Lansing

Cline, D. C.
Dunford, C. S.
Michigan State Col. Lib.
O'Beirne, B. E.
Patton, H. S.

Flint

Stevens, G. D.

Grand Rapids

Aquinas Col. Lib.
Flint Pub. Lib., E. Kearsley St.
McNaughton, F.
Ranck, S. H.

Hancock

Close, J. A.

Highland Park

McGregor Pub. Lib.

Hillsdale

Sherman, W. R.

Holland

Horner, R. J.

Houghton

Michigan Col. of Mining and Tech. Lib.

Ironwood

Erickson, A. E.
Soldinger, M. A.
Soldinger, Morris A., Bd. of Educa.

Jackson

Jackson Pub. Lib., 280 W. Michigan Ave.
Junior Col. Lib., Wildwood Ave.

Kalamazoo

Kalamazoo Col., Mandell Mem. Lib.
Kalamazoo Pub. Lib.
Moore, F. W.
Western Michigan Col. of Educa. Lib.

Lansing

Michigan State Lib.

Marquette

Northern Michigan Col. of Educa. Lib.

Menominee

High School Lib.

Mt. Pleasant

Central Michigan Col. of Educa. Lib.

Muskegon

Hackley Pub. Lib.

Nazareth

Nazareth Col.

Olivet

Olivet Col. Lib.

Orchard Lake

St. Mary's Col. Lib.

Royal Oak

Royal Oak Pub. Lib.

Saginaw

Hoyt Pub. Lib.
May, H. K.

Ypsilanti

Michigan State Normal Col. Lib.

MINNESOTA

Bemidji

State Teachers Col. Lib.

Crosby

Crosby-Ironton Pub. Schools

Duluth

Col. of St. Scholastica Lib.
Duluth Junior Col., 44th Ave. W. and 4th St.
Duluth Pub. Lib., 1st Ave. W. and 2nd St.
Matteson, J. S.
State Teachers Col.

Edina

Nielsen, O.

Ely

Independent School Dist. 12

Hibbing

Hibbing Junior Col. Lib.

Mankato

Mankato Free Pub. Lib.
State Teachers Col. Lib.

Minneapolis

Altschul, E.
Blakey, R. G.
Boddy, F. M.
Borak, A. M.
Burnstan, A. R.
Canoyer, H. G.
Childs, F. E.
Chute, A. H.
Dein, R. C.
Dreiman, L. S.
Dugan, J. E.
Federal Cartridge Corp.
Filipetti, G.
Garver, F. B.
General Mills, Inc., Att. A. E. Taylor, 200 Chamber of Com.
Haraldson, W. C.
Heaton, H.
Hines, L. G.
Johnson, R. E.
Kozelka, R. L.
Lunden, L. R.
Marget, A. W.
Minneapolis Pub. Lib., 10th and Hennepin Ave.
Minneapolis Pub. Lib., Municipal Ref. and Bus. Branch, 508 2nd Ave., S.
Morgner, A.
Mudgett, B. D.
Myers, W. R.
Nightingale, E. A.
Ostlund, H. J.
Peterson, E. J.
Powell, O. S.
Schmidt, E. P.
Simpson, F. R.
Stehman, J. W.
Stevenson, R. A.
Stigler, G. J.
Tow, C. W.
Univ. of Minnesota Lib.
Upgren, A. R.
Weinfeld, W.
Yoder, D.

Moorhead

Concordia Col. Lib.
Hjelmstad, J. H.

Northfield

Carleton Col. Lib.
Klaragard, S.
St. Olaf Col. Lib.

Rochester

Shaw, E. R.

St. Cloud

State Teachers Col. Lib.

St. Paul

Allstrom, H. W., Minnesota Mutual Life Ins. Co.
Cavert, W. L.
Col. of St. Thomas Lib.
Dowell, A. A.
Hamline Univ. Lib.
Healy, Sister Mary Edward, Col. of St. Catherine
Heneman, H. G., Jr.
Houston, G. S.
James Jerome Hill Ref. Lib.
Jesness, O. B.
Koller, E. F.
Macalester Col. Lib.
Minnesota Hist. Soc.
Minnesota State Law Lib., State Capitol
St. Paul Pub. Lib., Order Dept., 4th and Washington St.
Univ. of Minnesota Lib., Univ. Farm
Waite, W. C.
Young, F. A.

St. Peter

Gustavus Adolphus Col. Lib.

Virginia

Junior Col. Lib.
Moe, F. B.

Winona

Col. of St. Teresa Lib.
State Teachers Col. Lib.
Woods, R. M.

Worthington

Worthington Pub. Schools

MISSISSIPPI

Camp Shelby

McPherson, W. W.

Cleveland

Delta State Teachers Col. Lib.

Clinton

Mississippi Col. Lib.

Columbus

J. C. Fant Lib., Box E, Col. Sta.

Hattiesburg

Mississippi Southern Col. Lib.

Jackson

Millsaps Col., Carnegie-Millsaps Lib.
Wallace, E. S.

Keesler Field

Zdanowicz, Pvt. H. L., Finance Office

State College

Mississippi State Col. Gen. Lib.

University

Trumbull, W. P.
Univ. of Mississippi Lib.

MISSOURI

Boonville

Kemper Military School Lib., 3rd St.

Cape Girardeau

Taylor, V. W.

Clayton

Clayton Pub. Lib., 10 N. Bemiston Ave.
Keim, A. G.

Columbia

Brown, H. G.
Center, C. C.
Curtis, R. E.
Hartkemeier, H. P.
Johnson, O. R.
McLaughlin, F. C.
Paustian, P. W.
Scott, DR
Stephens Col. Lib.
Univ. of Missouri Lib.
Wood, E.

Fayette

Central Col. Lib.
Kline, G. W.
Puckett, E. P.

Fulton

Westminster Col. Lib.

Hayti

Rankin, J. O.

Jackson

Wichman, A. A.

Jefferson City

Lincoln Univ. Lib.
Smythe, M. M.

Kansas City

Cady, E. L.
Foth, J. H.
Fox, M. J.
Johnson, E. C.
Kansas City Pub. Lib., 9th and Locust Sts.
Lerner, A. P.
Reinhardt, J. J.
Robb, T. B.
Rockhurst Col. Lib., 5225 Troost
Teachers Col. Lib., 1840 E. 8th St.
Toohey, P. G.
Townley, W. W.
Univ. of Kansas City Lib., 5100 Rockhill Rd.

Kirksville

Clevenger, C. H.
Northeast Missouri State Teachers Col.

Kirkwood

Jekel, O. H.

Lexington

Wentworth Military Academy Lib.

Liberty

William Jewell Col. Lib.

Maplewood

Maplewood Pub. Lib., 7479 Manchester Ave.

Marshall

Murrell Mem. Lib.

Nevada

Cottey Col. Lib.

Parkville

Park Col. Lib.

Rolla

Orten, M. D.
School of Mines and Metallurgy Lib.

St. Charles

Lindenwood Col. Lib.

St. Joseph

Higdon, E. T.
Lorenz, P. F.

St. Louis

Abbott, W. J., Jr.
Cable, J. R.
Carr, J. A.
Cummings, M. W.
Curtis, L. S.
Dempsey, B. W.
Edmiston, H. H.
Fontbonne Col. Lib., Wydown and Big Bend Blvds.
Harris Teachers Col. Lib., 1517 S. Theresa
Haworth, C. L.
Helmreich, T. C.
Hochwald, W.
Jackson, J. R.
Legan, W. E.
Lippincott, I.
Loeb, I.
Maryville Col., Meramec and Nebraska Ave.
McDonald, J.
Mercantile Lib., Broadway and Locust St.
O'Neil, H. J.
Penzler, K. E., Missisippi Valley Trust Co., Invest. Div., Trust Dept.
Rural Electrification Admin. Lib., Boatmen's Bank Bldg., Broadway and Locust Sts.
St. Louis Pub. Lib., Package Entrance, 13th and Locust Sts.
Smith, G. C., Jr.
Sorkin, C. A.
Stead, W. H.
Sulkin, L. L.
Washington Univ. Lib., Skinker and Lindell
Wenzlick, R.
Young, T. P., 705 Olive St.
Zempel, A.

Springfield

Southwest Missouri State Teachers Col.

Tarkio

McCollough, E. V.
Tarkio Col. Lib.

University City

Boettler, H. F.

Warrensburg

Central Missouri State Teachers Col. Lib.

MONTANA

Billings

Cooper, V.

Bozeman

Craig, G. H.
Montana State Col. Lib.
Parsons, O. A.
Renne, R. R.

Butte

Thomas, R. L.

Dillon

State Normal Col. Lib.

Havre

Burnett, J. O.

Helena

Carroll Col. Lib.

Missoula

Ely, R. J. W.
State Univ. of Montana Lib.

NEBRASKA

Belden

Garwood, J. D.

Chadron

Nebraska State Teachers Col. Lib.

Crete

Doane Col. Lib.

Fairbury

Scott, W. E., Box 58

Grand Island

Grand Island Pub. Lib.

Hastings

Dykstra, D.
Hastings Col. Lib.

Lincoln

Arndt, K. M.
Bullock, T. T.
Crawford, R. P.
Elliott, C. M.
Filley, H. C.
Gilmore, E. A., Jr.
Hicks, C. M.
Kirshman, J. E.
LeRossignol, J. E.
Lincoln City Lib.
Litterer, O. F.
Martin, O. R.
McNeill, C. E.
Nelson, C. L.
Schmidt, E. B.
Spurr, W. A.
Union Col. Lib., College View Sta.
U. S. Dept. of Agric., Bur. of Agric. Econ., 900 N. 16th St.
Univ. of Nebraska Lib.
Virtue, G. O.

Nebraska City

Pub. Lib.

Omaha

Creighton Univ. Lib.
Cusack, L. A.
Lucas, J. W.
Municipal Univ. of Omaha Lib.
Omaha Pub. Lib., Corner 19th and Harney Sts.
Walsh, F. E.
Weisskopf, W. A.

Scottsbluff

Scottsbluff Junior Col., 19th and 4th Ave.

Waco

Kaltenborn, H. S.

Wayne

State Teachers Col. Lib.

NEVADA

Fallon

Gordon, L. D.

Las Vegas

Hatton, W. J.

Reno

Ballaine, W. C.
Chadwick, L. E.
Clark, W. E.
Herz, H.
Palmer, W. S., Jr.
Plumley, A. J.
Sutherland, E. G.
Venstrom, C.

Sparks

Purdy, D. A.

NEW HAMPSHIRE

Claremont

Doody, F. S.

Concord

New Hampshire State Lib.

Durham

Degler, C. M.
Phillips, W. T.
Smith, H. W.
Univ. of New Hampshire, Hamilton Smith Lib.
Woodruff, R. J.

Hanover

Cusick, J.
Dankert, C. E.
Dartmouth Col. Lib.
Dartmouth Col., Amos Tuck School Lib.
Duncombe, H. L., Jr.
Feldman, H.
Goodhue, E. W.
Harriman, J. W.
Keir, M.
Knight, B. W.
Marx, D., Jr.
McDonald, J. L.
Olsen, H. V.
Purdy, H. L.
Rice, L. P.
Shaw, H. F. R.
Sikes, E. R.
Woodworth, G. W.

Hillsboro

Bennett, W. B.

Keene

Arwe, H. C.

Manchester

Manchester City Lib.

New London

Colby Junior Col. Lib.

Portsmouth

Raynès, G. W.

Wilton

Sweezy, M. Y.
Sweezy, P. M.

NEW JERSEY

Asbury Park

Kinmonth, J. L.

Bayonne

Bayonne Free Pub. Lib., Ave. C and 31 St.

Bloomfield

High School Lib.

Cape May Court House

Wood, E. E.

Clifton

Mikoljon, S. J.

Elizabeth

Elizabeth Free Pub. Lib.

Ft. Dix

Gen. Classification Test Sec., Reception Center

Glassboro

State Teachers Col.

Glen Ridge

Bestor, P.
Kimberland, K. G.

Gloucester

Flowers, J. B.

Harrison

Swarthout, A. V.

Hillside

Kiernan, C. J.

Hoboken

Barnwell, G. W.
Bernheim, G. B.
Ennis, W. D.
Lesser, A., Jr.

Irvington

Free Pub. Lib.
Northrup, H. R.

Jersey City

Block, Leonard, 190 Baldwin Ave.
Jersey City Free Lib., 472-486 Jersey Ave.
St. Peter's Col. Lib., 2641 Boulevard

Leonia

Maurer, W. J.
Otto, E. A.
Sigsbee, R. A.

Madison

Drew Univ. Lib., Brothers Col.
Schultz, R.

Maplewood

Hart, M. I.

Montclair

Foote, E. W.
Montclair Free Pub. Lib., Church St. and Valley Rd.
Roelse, H. V.
State Teachers Col. Lib.

Morristown

Streeter, T. W.

Newark

Barnard, C. I.
Bernstein, L. M.
Bus. Br. of the Lib., 34 Commerce St.
Finck, D. H.

Greef, A. O.
Neifeld, M. R.
Newark Col. of Engr. and Newark Tech. High School, 367 High St.
Nunn, W. L.
Prudential Ins. Co. of America Lib.
Pub. Lib., 5 Washington St.
Rhodes, E. E.
Schattschneider, S.
Schickhaus, Edward, Fidelity Union Trust Co.
Univ. of Newark Lib., 40 Rector St.

New Brunswick

Agger, E. E.
Bagley, E. S.
Bagley, W. C., Jr.
Gaum, C. G.
Gideonse, M.
Harbeson, R. W.
Hopkins, F. W.
Keller, H., Jr.
Kjellstrom, E. T. H.
New Jersey Col. for Women Lib.
Rutgers Col. Lib.
West, M. E.

Orange

Bennett, P. A.
Ehriche, K. N.

Perth Amboy

Perth Amboy Pub. Lib.

Plainfield

Sessler, M. J.
Starkweather, L. P.
Watt, R. W.

Pottersville

Heiss, C. A.

Princeton

Brown, J. D.
Clemen, R. A.
Curren, K. J.
Dell, B. N.
Dixon, F. H.
Dixon, R. C.
Duncan, A. J.
Fetter, F. A.
Graham, F. D.
Hannay, E. B.
Hickman, W. B.
Howard, S. E.
Kelly, M. A.
Kemmerer, E. W.
Kozlik, A.
Long, C. D.
Loveday, A.
Lutz, F. A.
Lutz, H. L.
McCabe, D. A.
McIsaac, A. M.
Morehouse, E. W.
Perring, K.
Plum, L. V.
Princeton Univ. Lib.
Riefler, W. W.
Smith, J. G.
Stewart, W. W.
Warren, R. B.
Wills, J. H.
Wood, R. H.

Ridgewood

G. L. Pease Memorial Lib.

Short Hills

Tuttle, P. M.

South Orange

Milne, M. L.
Stiefel, C. F.

Springfield

Jonathan Dayton Regional High School, Flemer Ave.

Summit

Foster, J. R.
Hiatt, A.
Kautz, K. I.

Trenton

New Jersey State Lib.
Nicolaysen, A. G.
Rider Col., Moore-Gill Lib.
State Teachers Col. Lib.
Stephan, A. H. F.
Trenton Free Pub. Lib.

Upper Montclair

Atkins, P. M.
Carpenter, W. M.
Glover, C. A.
Labastille, F. M.

Verona

Kusik, J. E.

Washington

Schlink, F. J.

Weehawken

Herz, H.
Jordan, V.

Westfield

Anderson, D. F.
Ellerman, F. J.
Oehler, C.
Taylor, A. W.
Tucker, R. S.

Woodbury

Wellbrock, G. W., 115 Horace St.

NEW MEXICO

Albuquerque

Kelso, M. M., 818 Grandview Dr.
Linder, R. L.
Obering, W. F.
Sorrell, V. G.
U. S. Dept. of Agric., Bur. of Agric. Econ., P.O. Box 458
Univ. of New Mexico Lib.

Portales

Eastern New Mexico Col.

Raton

Seaberg, H.

NEW YORK

Albany

Adams, L. P.
Bucknam, R. F.
Carlson, R. I.
Cooper, C. L.
Cooper, O.
Fleming, R. D.
Frankel, E. T.
Gordman, H. S.
Martin, M. E.
New York State Lib., State Educa. Bldg.
New York State Teachers Assoc., Pub. Inf. Serv., 152 Washington Ave.
Taylor, C. D.

Alfred

Alfred Univ. Reading Room

Amenia

Spingarn, E. D. W.

Annandale-on-Hudson

Bard Col. Lib.
Sturmthal, A. F.

Auburn

Ferguson, R. H.

Aurora

Davis, J. S.
Magee, M. A.
Weld, W. E.
Wells Col. Lib.

Bayside

Kapp, K. W.

Bedford Hills

Angus, W. N.

Bellerose

Spahr, W. E.

Bronxville

Latour, C. C.
Raushenbush, C.
Sarah Lawrence Col. Lib.
Tredwell, Thomas A., 16 Crows Nest Rd.

Brooklyn

Achinstein, A.
Asofsky, A. A.
Auerbach, S. J.
Bachman, J.
Blake, E. M.
Bornemann, A. H.
Brooklyn Col. Lib., Bedford Ave. and Ave. H
Brooklyn Pub. Lib., Central Serv., Grand Army Plaza
Brooklyn Pub. Lib., Montague Br., 1927 Montague St.
Burnside, M.
Cohen, H. L.
Colvin, W.
Corbett, J. F.
Cowan, M. H.
Dannenberg, F. M.
Diamond, P. M.
Dutcher, J. R.
Gideonse, H. D.
Glassman, A. R.
Goetz, J. H.
Gordon, J.
Griffin, J. I.
Hession, C. H.
Korey, E. L.
Levine, A. J.
Lipkowitz, I.
Lipsky, D.
Liwschitz-Garik, V.
Long Island Univ., 300 Pearl St.
Lonigan, E.
Lutzker, S.
Max, W. D.
Merkel, C. M.
Norton, J. R.
Perlman, B.
Pratt Inst. Lib.
Rosen, G.
Ross, M.
Ruhmer, O. E. M.
Runge, E. J.
St. John's Univ. Lib.
St. John's Univ., Prep. School Lib., Lewis and Willoughby Ave.
Sarnoff, M. M.
Schenkel, A.
Seligman, B. B.
Serri, F. R., 66 Court St.
Singer, I. L.
Stein, H.
Struever, M. N.
Weitz, L.
Wolfson, T.
Young, E. R.
Zunder, R. D. F.

Buffalo

Brumbaugh, M. A.
Buffalo Pub. Lib.
Chambers, R.
Clark, M.
Epstein, R. C.
Froman, L. A.
Groden, G. D.
Grosvenor Lib.
Irwin, D. M.
Machlup, F.
McGarry, E. D.
Mitchell, J. M.
Myers, J. H.
Norton, T. L.
Puffer, C. E.
Riegel, R.
Shea, J. L.
Somers, H. M.
Univ. of Buffalo Lib., 3399 Main St.

Canton

Pasel, L.
St. Lawrence Univ. Lib.

Clinton

Hamilton Col.
Heilperin, M. A.
Patton, F. L.

Cornwall

Moore, H. L.

Croton-on-Hudson

MacKenzie, T. F.

Delmar

Gillett, R. L.

Dewitt

Baysinger, R. H.

Dobbs Ferry

Person, H. S.

Douglas Manor

O'Shea, V. J.

Douglaston

King, W. I.
Weber, E. B.

East Rochester

Karger, J.

Elmhurst

O'Connell, D. W.

Elmira

Elmira Col. Lib.

Fishkill

Peters, I. L.

Flushing

Guttenplan, J.
Kantor, H. S.
Queens Col. Lib., Serials Div.
Shlakman, V.

Forest Hills

Baer, W.
Bund, H.
Cartinhour, G. T.
Golovin, N. E.
Scheinman, D.

Ft. Slocum

Hotchkiss, H. D.

Garden City

Baumert, W. A.
Bishop, W. L.

Geneva

Hobart Col. Lib.
Jamieson, S. M.

Glen Head

Bell, J. C.

Glens Falls

Titsworth, H. H.

Great Neck

Jordan, D. F.
Macaulay, F. R.
Mayer, L. K.
Paris, J. D.
Quick, George F., 10 Manor Dr.

Hamilton

Bancroft, E. C.
Kessler, W. C.
Koontz, H. D.
Robinson, T. H.
Shortliffe, J. M.

Hempstead

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Morson, W. T.
Truitt, G.

Hewlett

Joseph, Sylvan L., Woodside Dr., L.I.

Hicksville

Galloway, L. J.

Houghton

Houghton Col. Lib.
Shea, J. W.

Hudson

Hathaway, F. R.

Hyde Park

Morgan, G.

Ithaca

Adams, G. P., Jr.
Aikin, A. M.
Bray, W. H.
Cannon, H.
Cornell Univ., Dept. of Farm Manage.
Cornell Univ. Lib.
Day, E. E.
Durand, D.
English, D.
Garrett, S. S.
Hutchins, J. G. B.
Kendrick, M. S.
Meek, H. B.
Montgomery, R. E.
New York State Col. of Home Econ. Lib., Rensselaer Hall, Cornell Univ.
Reed, H. L.
Southard, F. A., Jr.
Stephan, F. F.
Willcox, W. F.

Jackson Heights

Chenault, L. R.
Comstock, E. G.
Kane, J. S.

Jamaica

Lederer, W.
Queens Borough Pub. Lib., Period. Div., 89-14 Parsons Blvd.

Jamaica Estates

McIndoe, R. L.

Keuka Park

DeBard, A. A., Jr.

Kew Gardens Hills

Mossé, R.

Larchmont

Pekelis, A.
Stempf, V. H.
Winton, H. T.

Little Neck

Merkt, O. E. D.

Lockport

Holder, F. C.

Long Island City

Derber, M.

Loudonville

Siena Col. Lib.

Manhasset

Phipps, I. R.
Weiss, H.

Maryknoll

Walsh, Thomas S., Maryknoll Sem.

Millbrook

Burnett, E. P.

Mt. Vernon

Cullen, J. A.
Huber, M. L.
Mt. Vernon Pub. Lib.

Neponset

Crosby, L. G.

New Brighton

Smith, H. L.

New Rochelle

Col. of New Rochelle Lib.
Kacmarynski, L. F.
Lough, W. H.
Roswell, D. S.
Thomson, D. L.

New York City

Agnew, H. E.
Allied Chemical and Dye Corp., 61 Broadway
Amer. General Corp. Lib., 50 Pine St.
Amer. Inst. of Accountants, 13 E. 41st St.
Amer. Inst. of Banking, New York Chapter Lib., Woolworth Bldg., 233 Broadway
Amer. Tel. and Tel. Co., Gen. Lib., Room 2440, 195 Broadway
Amer. Tel. and Tel. Co., Dept. of Operation and Engr., Room 1840, 195 Broadway
Anderson, C. D.
Anderson, T. J., Jr.
Andrew, S. L.
Andrews, B. R.
Andrews, J. B.
Angell, J. W.
Armstrong, George S., and Co., Inc., 52 Wall St.
Amstrong, R. H.
Arnold, A. Z.
Aul, H. E.
Axe, E. W.
Bader, L.
Bagwell, I. L.
Baily, N. A.
Baker, E. F.
Ball, J. O.
Bambrick, J. J., Jr.
Bandler, W.
Barkin, Solomon, Textile Workers Union of Amer., 15 Union Sq.
Barnard Col. Lib., Columbia Univ.
Barr, P.
Baruch, B. M.
Bauer, J.
Beckhart, B. H.
Behlow, R. R.
Belcher, D. R.
Beller, Lawrence, Co-ord. of Inf., 224 W. 57th St.
Beller, W. C.
Berger, A. H.
Berkowitz, L. M.
Berridge, W. A.
Bidwell, P. W.
Bing, A. M.
Blanchard, R. H.
Block, H.
Bloomfield, A. I.
Bober, W. C.
Bogart, E. L.
Bogen, J. I.
Bonbright, J. C.
Boudin, L. B.
Bremer, C. D.
Brisco, N. A.
Brissenden, P. F.
Bruere, H.
Brush, W. S.
Buell, R. L., Time, Inc., Time and Life Bldg., Rockefeller Center
Burgess, R. W.
Burgess, W. R.
Burns, A. F.
Burrill, C. L.
Bush, I. T.
Bushey, J. H.
Bussing, I.
Buttenheim, H. S.
Cahill, M. C.
Calhoun, C. P.
Calkins, R. D.
Campbell, K. H.
Carey, R. L.
Carlisle, Floyd L., 1060 5th Ave.
Carpenter, R. V.
Central Trust of China, c/o Tower Warehouse, 11 Worth St.
Chapman, J. M.

Chase Nat. Bank Lib., Pine St. corner of Nassau
Chen, H. H.
Cheney, R. A.
Cherington, P. T.
Chingos, E. G.
Chinlund, E. F.
Chudnowsky, W. A.
Clark, E.
Clark, E. H.
Clark, H. F.
Clemence, R.
Cogen, C.
Cohan, A. B.
Cohen, F.
Cohen, S. L.
Coit, E. G.
Cole, C. W.
Coleman, F. B. T.
Colgan, V. E.
Colin, D. H.
Col. of the City of New York Lib., Convent Ave. and 139th St.
Col. of the Sacred Heart Lib., Manhattanville, Convent Ave. and 133rd St.
Consolidated Edison Co. of New York, Inc., Lib., Room 1650S, 4 Irving Pl.
Cooper Union Lib.
Cortney, Philip, Coty, Inc., 423 W. 55th St.
Cotton, T. L.
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1886-1942

Year	*President*	*Vice-Presidents*	*Secretary*	*Treasurer*	*Council*
1886	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	Members of the Council were quite numerous. For list, refer to contemporary publications.
1887	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	
1888	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	
1889	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	
1890	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	
1891	Francis A. Walker	Charles F. Dunbar William W. Folwell Carroll D. Wright	Richard T. Ely	Frederick B. Hawley	
1892	Francis A. Walker	Charles F. Dunbar William W. Folwell Carroll D. Wright	Richard T. Ely	Frederick B. Hawley	
1893	Charles F. Dunbar	Richard T. Ely Henry W. Farnam Simon N. Patten	Edward A. Ross	Frederick B. Hawley	
1894	John B. Clark	Simon N. Patten Richard T. Ely Richmond Mayo-Smith	Jeremiah W. Jenks	Frederick B. Hawley	

Year	*President*	*Vice-Presidents*	*Secretary*	*Treasurer*	*Council*
1895	John B. Clark	James H. Canfield Arthur T. Hadley George W. Knight	Jeremiah W. Jenks	Frederick B. Hawley	Members of the Council were quite numerous. For list, refer to contemporary publications.
1896	Henry C. Adams	Franklin H. Giddings Elgin R. L. Gould Roland P. Falkner	Jeremiah W. Jenks	Charles H. Hull	
1897	Henry C. Adams	Franklin H. Giddings Elgin R. L. Gould Roland P. Falkner	Walter F. Willcox	Charles H. Hull	
1898	Arthur T. Hadley	John H. Gray Henry B. Gardner Winthrop M. Daniels	Walter F. Willcox	Charles H. Hull	
1899	Arthur T. Hadley	Stuart Wood David Kinley William Z. Ripley	Walter F. Willcox	Charles H. Hull	
			Secretary-Treasurer		
1900	Richard T. Ely	Stuart Wood David Kinley William Z. Ripley	Charles H. Hull		
1901	Richard T. Ely	Theodore Marburg Frederick M. Taylor John C. Schwab	Charles H. Hull (to June, 1901)		
1902	Edwin R. A. Seligman	Theodore Marburg Frederick M. Taylor John C. Schwab	Frank A. Fetter (from June, 1901)		
					Elected Members of Executive Committee
1903	Edwin R. A. Seligman	William W. Folwell Lester F. Ward Frederick W. Moore	Frank A. Fetter		Charles J. Bullock Winthrop M. Daniels William Z. Ripley

Year	*President*	*Vice-Presidents*	*Secretary-Treasurer*	*Elected Members of Executive Committee*
1904	Frank W. Taussig	Irving Fisher John H. Gray John G. Brooks	Frank A. Fetter	Winthrop M. Daniels Henry B. Gardner William Z. Ripley
1905	Frank W. Taussig	Horace White Martin C. Knapp Charles R. Crane	Frank A. Fetter	Winthrop M. Daniels Henry B. Gardner Balthasar H. Meyer
1906	Jeremiah W. Jenks	Charles S. Fairfield S. N. D. North Carl C. Plehn	Frank A. Fetter	Frank A. Fetter Balthasar H. Meyer Henry C. Emery John H. Gray Frank H. Dixon Henry R. Seager
1907	Jeremiah W. Jenks	Davis R. Dewey Charles P. Neill Charles B. Fillebrown	Winthrop M. Daniels	Frank H. Dixon Henry C. Emery Frank A. Fetter John H. Gray Balthasar H. Meyer Henry R. Seager
1908	Simon N. Patten	Davis R. Dewey James B. Dill John M. Glenn	Winthrop M. Daniels	Frank H. Dixon Henry C. Emery Frank A. Fetter John H. Gray Balthasar H. Meyer Henry R. Seager
1909	Davis R. Dewey	Willard Fisher Fabian Franklin Frederick B. Hawley	Thomas N. Carver	Frank H. Dixon Henry C. Emery Frank A. Fetter John H. Gray Thomas S. Adams Henry R. Seager
1910	Edmund J. James	Frank L. McVey Herbert J. Davenport Alvin S. Johnson	Thomas N. Carver	Frank A. Fetter Thomas S. Adams Henry R. Seager Henry C. Emery John H. Gray Frank H. Dixon

Year	*President*	*Vice-Presidents*	*Secretary-Treasurer*	*Elected Members of Executive Committee*
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1912	Frank A. Fetter	Theodore E. Burton John R. Commons E. Dana Durand	Thomas N. Carver	Frank H. Dixon Henry R. Seager George E. Barnett Leon C. Marshall Roger W. Babson Roswell C. McCrea
1913	David Kinley	John H. Gray Charles W. Macfarlane Willard E. Hotchkiss	Thomas N. Carver	George E. Barnett Leon C. Marshall Roger W. Babson Roswell C. McCrea Matthew B. Hammond William A. Scott
1914	John H. Gray	David F. Houston Thomas N. Carver Walter F. Willcox	Allyn A. Young	Roger W. Babson Roswell C. McCrea Matthew B. Hammond William A. Scott Carl C. Plehn Leon C. Marshall
1915	Walter F. Willcox	Thomas N. Carver Balthasar H. Meyer Jacob H. Hollander	Allyn A. Young	Roger W. Babson Leon C. Marshall Matthew B. Hammond Wesley C. Mitchell Carl C. Plehn William A. Scott
1916	Thomas N. Carver	Thomas S. Adams Matthew B. Hammond	Allyn A. Young	Leon C. Marshall Roger W. Babson Fred R. Fairchild Carl C. Plehn Wesley C. Mitchell William H. Glasson

Year	*President*	*Vice-Presidents*	*Secretary-Treasurer*	*Elected Members of Executive Committee*
1917	John R. Commons	James E. LeRossignol Murray S. Wildman George R. Wicker	Allyn A. Young	Roger W. Babson Fred R. Fairchild William F. Gephart Wesley C. Mitchell William H. Glasson Leon C. Marshall
1918	Irving Fisher	Frank A. Vanderlip Edith Abbott Ernest L. Bogart	Allyn A. Young	Fred R. Fairchild William F. Gephart Henry B. Gardner William H. Glasson Leon C. Marshall William Z. Ripley
1919	Henry B. Gardner	George E. Roberts Susan M. Kingsbury Henry R. Hatfield	Allyn A. Young	William F. Gephart William Z. Ripley Maurice H. Robinson Leon C. Marshall Frederick S. Deibler Henry C. Taylor
1920	Herbert J. Davenport	James A. Field Thornton Cooke	Allyn A. Young	William Z. Ripley Henry C. Taylor Richard T. Ely Frederick S. Deibler Maurice H. Robinson Harley L. Lutz
1921	Jacob H. Hollander	Allyn A. Young Robert S. Brookings	Ray B. Westerfield	Henry C. Taylor Richard T. Ely Harry A. Millis Maurice H. Robinson Harley L. Lutz Ernest M. Patterson
1922	Henry R. Seager	Walker D. Hines Thomas W. Page	Ray B. Westerfield	Richard T. Ely Harry A. Millis Henry C. Taylor Matthew B. Hammond Harley L. Lutz Ernest M. Patterson

Year	*President*	*Vice-Presidents*	*Secretary-Treasurer*	*Counsel*	*Elected Members of Executive Committee*
1923	Carl C. Plehn	Fred R. Fairchild Bernard M. Baruch	Ray B. Westerfield	Edward A. Harriman	Harry A. Millis Ernest M. Patterson Matthew B. Hammond Henry C. Taylor Richard T. Ely Thomas W. Page
1924	Wesley C. Mitchell	Edmund E. Day Henry S. Dennison	Ray B. Westerfield	Edward A. Harriman	Matthew B. Hammond Henry C. Taylor Richard T. Ely Thomas W. Page Glover D. Hancock Harold L. Reed
1925	Allyn A. Young	Owen D. Young Eliot Jones	Ray B. Westerfield	Edward A. Harriman	Edmund E. Day William H. Kiekhofer Richard T. Ely Thomas W. Page Glover D. Hancock Harold L. Reed
1926	Edwin W. Kemmerer	Benjamin Strong Ira B. Cross	Frederick S. Deibler	Edward A. Harriman	Edmund E. Day William H. Kiekhofer Richard T. Ely Clyde O. Ruggles Glover D. Hancock Harold L. Reed
1927	Thomas S. Adams	Sam A. Lewisohn Frank H. Dixon	Frederick S. Deibler	Edward A. Harriman	Fred R. Fairchild George W. Dowrie Richard T. Ely Clyde O. Ruggles Edmund E. Day William H. Kiekhofer
1928	Fred M. Taylor	Frank L. McVey Jessica B. Peixotto	Frederick S. Deibler	Edward A. Harriman	Richard T. Ely Clyde O. Ruggles Fred R. Fairchild George W. Dowrie William H. Kiekhofer Edmund E. Day

Year	*President*	*Vice-Presidents*	*Secretary-Treasurer*	*Counsel*	*Elected Members of Executive Committee*
1929	Edwin F. Gay	Winthrop M. Daniels Waddill Catchings	Frederick S. Deibler	John E. Walker	Fred R. Fairchild George W. Dowrie William H. Kiekhofer Edmund E. Day Richard T. Ely Ernest L. Bogart
1930	Matthew B. Hammond	Balthasar H. Meyer George O. May	Frederick S. Deibler	John E. Walker	William H. Kiekhofer Ernest L. Bogart Joseph H. Willits Edmund E. Day Richard T. Ely Stuart Daggett
1931	Ernest L. Bogart	Edmund E. Day Eliot Jones	Frederick S. Deibler	John E. Walker	Jacob Viner Richard T. Ely Joseph H. Willits Stuart Daggett Leo Wolman Broadus Mitchell
1932	George E. Barnett	Benjamin M. Anderson, Jr. Ralph E. Heilman	Frederick S. Deibler	John E. Walker	Joseph H. Willits Stuart Daggett Leo Wolman Broadus Mitchell Robert H. Tucker John Ise
1933	William Z. Ripley	Walter W. Stewart Abbott P. Usher	Frederick S. Deibler	John E. Walker	Leo Wolman Broadus Mitchell Robert H. Tucker John Ise David A. McCabe Stuart Daggett
1934	Harry A. Millis	Fred R. Fairchild Leonard P. Ayres	Frederick S. Deibler	John E. Walker	Robert H. Tucker John Ise David A. McCabe Stuart Daggett James C. Bonbright John H. Williams

Year	*President*	*Vice-Presidents*	*Secretary-Treasurer*	*Counsel*	*Elected Members of Executive Committee*
1935	John M. Clark	Frank H. Knight Willard L. Thorp	Frederick S. Deibler	John E. Walker	David A. McCabe Stuart Daggett James C. Bonbright John H. Williams Walton H. Hamilton Broadus Mitchell
1936	Alvin S. Johnson	Ernest M. Patterson Albert B. Wolfe	James Washington Bell	John E. Walker	James C. Bonbright John H. Williams Walton H. Hamilton Broadus Mitchell Robert M. Haig Alvin H. Hansen
1937	Oliver M. W. Sprague	Alvin H. Hansen Sumner H. Slichter	James Washington Bell	John E. Walker	Walton H. Hamilton Broadus Mitchell Robert M. Haig Harry G. Brown Carter Goodrich Frank D. Graham
1938	Alvin H. Hansen	Frederic B. Garver Frederick C. Mills	James Washington Bell	John E. Walker	Robert M. Haig Harry G. Brown Carter Goodrich Frank D. Graham Benjamin M. Anderson, Jr. Mabel Newcomer
1939	Jacob Viner	John H. William Paul H. Douglas	James Washington Bell	John E. Walker	Carter Goodrich Frank D. Graham Benjamin M. Anderson, Jr. Mabel Newcomer Paul T. Homan Ray B. Westerfield

Year	*President*	*Vice-Presidents*	*Secretary-Treasurer*	*Counsel*	*Elected Members of Executive Committee*
1940	Frederick C. Mills	James W. Angell Calvin B. Hoover	James Washington Bell	John E. Walker	Benjamin M. Anderson, Jr. Mabel Newcomer Paul T. Homan Ray B. Westerfield J. Douglas Brown George W. Stocking
1941	Sumner H. Slichter	James C. Bonbright Walton H. Hamilton	James Washington Bell	John E. Walker	Norman S. B. Gras. Ray B. Westerfield J. Douglas Brown George W. Stocking Stacy May Edwin E. Witte
1942	Edwin G. Nourse	Frederic B. Garver	James Washington Bell	John E. Walker	J. Douglas Brown George W. Stocking Stacy May Edwin E. Witte William L. Crum Leonard L. Watkins

REPRESENTATIVES OF THE ASSOCIATION TO THE LEARNED COUNCILS

AMERICAN COUNCIL OF LEARNED SOCIETIES

1920-42

1920	A. A. Young, H. B. Gardner
1923	A. A. Young, H. W. Farnam
1924	A. A. Young, T. W. Page
1925	T. W. Page, W. F. Willcox
1926–36	W. F. Willcox, E. F. Gay
1937–38	A. S. Johnson, J. M. Clark
1939–40	J. M. Clark, F. H. Knight
1941–	F. H. Knight, E. S. Furniss

SOCIAL SCIENCE RESEARCH COUNCIL

1924-42

1924	J. S. Davis, Horace Secrist, J. R. Commons
1925	Horace Secrist, J. R. Commons, G. E. Barnett
1926	W. C. Mitchell, G. E. Barnett, Horace Secrist
1927	G. E. Barnett, Horace Secrist, W. W. Stewart
1928	Horace Secrist, L. C. Marshall, G. E. Barnett
1929	L. C. Marshall, G. E. Barnett, A. S. Johnson
1930	G. E. Barnett, A. S. Johnson, H. A. Millis
1931–33	Max Handman, H. A. Millis, A. B. Wolfe
1934	Max Handman, H. A. Millis, A. H. Hansen
1935	H. A. Millis, A. H. Hansen, S. H. Slichter
1936	A. H. Hansen, S. H. Slichter, F. H. Knight
1937	S. H. Slichter, F. H. Knight, E. G. Nourse
1938	F. H. Knight, E. G. Nourse, S. S. Kuznets
1939–41	E. G. Nourse, S. S. Kuznets, A. H. Hansen
1942	E. G. Nourse, S. S. Kuznets, R. E. Montgomery

NOMINATING COMMITTEES

ROSTER OF MEMBERSHIP

1934-42

1934	W. F. Willcox, Chmn., J. S. Davis, Isador Lubin, E. T. Miller, S. Perlman, R. B. Westerfield
1935	E. F. Gay, Chmn., Eliot Jones, G. D. Hancock, E. G. Nourse, R. C. McCrea, H. D. Gideonse
1936	G. E. Barnett, Chmn., C. A. Phillips, E. W. Zimmermann, I. L. Sharfman, I. B. Cross
1937	E. L. Bogart, Chmn., W. A. Brown, R. T. Bye, H. A. E. Chandler, I. L. Sharfman, A. W. Marget
1938	A. S. Johnson, Chmn., R. B. Westerfield, J. W. Angell, C. B. Hoover, F. D. Graham, E. E. Witte, B. F. Haley
1939	A. H. Hansen, Chmn., A. R. Burns, F. S. Deibler, R. D. Calkins, C. O. Hardy, T. R. Snavely
1940	J. M. Clark, Chmn., W. C. Clark, E. J. Hamilton, C. D. Edwards, H. M. Groves, J. P. Young
1941	A. B. Wolfe, Chmn., C. R. Whittlesey, C. F. Remer, S. E. Leland, J. B. Woosley, H. S. Ellis
1942	F. C. Mills, Chmn., C. E. Griffin, John Ise, D. M. Halley, W. A. Brown, Jr., G. W. Terborgh, M. A. Copeland

PROGRAM COMMITTEES

ROSTER OF MEMBERS

1934-42

1934 H. A. Millis, Chmn.
R. G. Tugwell
S. H. Slichter
J. H. Willits

1935 J. M. Clark, Chmn.
J. D. Black
E. R. Burns
N. S. B. Gras
D. A. McCabe

1936 A. S. Johnson, Chmn.

1937 O. M. W. Sprague, Chmn.
A. H. Hansen, Vice-Chmn.
F. S. Deibler
E. S. Mason
The Secretary

1938 A. H. Hansen, Chmn.
F. B. Garver, Vice-Chmn.
F. C. Mills
C. D. Edwards
The Secretary

1939 Jacob Viner, Chmn.
The Secretary

1940 F. C. Mills, Chmn.
J. W. Angell
C. B. Hoover
C. R. Noyes
F. W. Fetter
P. T. Homan
E. B. Schumpeter
The Secretary

1941 S. H. Slichter, Chmn.
E. M. Patterson
R. E. Montgomery
Herbert Feis
H. R. Trumbower
E. G. Nourse
The Secretary

1942 E. G. Nourse, Chmn.
Fritz Machlup
J. B. Condliffe
R. A. Gordon
The Secretary

ANNUAL MEETINGS*

LOCAL ARRANGEMENTS

Year	Place	Local Arrangements Chairman or Representative
1910	St. Louis, Missouri	
1911	Washington, D.C.	
1912	Boston, Massachusetts	
1913	Minneapolis, Minnesota	
1914	Princeton, New Jersey	
1915	Washington, D.C. (Also in San Francisco, California)	
1916	Columbus, Ohio	
1917	Philadelphia, Pennsylvania	
1918	Richmond, Virginia	
1919	Chicago, Illinois	
1920	Atlantic City, New Jersey	
1921	Pittsburgh, Pennsylvania	
1922	Chicago, Illinois	H. A. Millis
1923	Washington, D.C.	H. B. Drury
1924	Chicago, Illinois	L. D. H. Weld
1925	New York, New York	R. C. McCrea
1926	St. Louis, Missouri	I. Lippincott
1927	Washington, D.C.	H. G. Moulton
1928	Chicago, Illinois	J. W. Bell
1929	Washington, D.C.	L. R. Edminster
1930	Cleveland, Ohio	C. C. Arbuthnot
1931	Washington, D.C.	W. M. W. Splawn
1932	Cincinnati, Ohio	F. H. Bird
1933	Philadelphia, Pennsylvania	S. H. Patterson
1934	Chicago, Illinois	E. H. Hahne
1935	New York, New York	B. H. Beckhart
1936	Chicago, Illinois	G. V. Cox
1937	Atlantic City, New Jersey	E. M. Patterson
1938	Detroit, Michigan	R. P. Briggs
1939	Philadelphia, Pennsylvania	W. N. Loucks
1940	New Orleans, Louisiana	R. W. Elsasser
1941	New York, New York	C. S. Shoup
1942	Cleveland, Ohio	R. Weisman

* A tabulation of "Statistics of Annual Meetings" from 1885 to 1910 may be found in the "Papers and Discussion" on the twenty-fifth anniversary, published in the Third Series of the publications of the Association, Vol. XI (1910), No. 1, pp. 92-93.

ORGANIZATIONS WITH WHICH THE AMERICAN ECONOMIC ASSOCIATION IS AFFILIATED

American Council of Learned Societies

1219 16th Street, N.W., Washington, D.C.

Director, Waldo G. Leland; *Administrative Secretary,* Mortimer Graves; *Secretary for Grants-in-Aid,* Donald Goodchild; *Special Adviser,* D. H. Daugherty; *Director, Intensive Language Program,* J. M. Cowan; *Editor,* Frederic W. Stewart; *Office Manager,* Joe N. Bourne; *Bursar,* Wallace D. Brock.

Delegates of the American Economic Association: Edgar S. Furniss, 1944, Frank H. Knight, 1942.

Constituent Societies: American Philosophical Society, American Academy of Arts and Sciences, American Antiquarian Society, American Oriental Society, American Numismatic Society, American Philological Association, Archaeological Institute of America, Society of Biblical Literature and Exegesis, Modern Language Association of America, American Historical Association, American Philosophical Association, American Anthropological Association, American Political Science Association, Bibliographical Society of America, Association of American Geographers, American Sociological Society, American Society of International Law, College Art Association of America, History of Science Society, Linguistic Society of America, Mediaeval Academy of America, Population Association of America.

Social Science Research Council

230 Park Avenue, New York City

Chairman: Edwin B. Wilson, Harvard University; *Vice-Chairman,* Edwin G. Nourse, Brookings Institution; *Secretary,* O. C. Stine, U. S. Department of Agriculture; *Treasurer,* A. T. Poffenberger, Columbia University.

Staff: Robert T. Crane, *Executive Director;* Donald Young; Carolyn E. Allen, *Controller.*

Representatives of the American Economic Association: Edwin G. Nourse, 1940-42, Simon Kuznets, 1941-43, Royal E. Montgomery, 1942-44.

Members at Large: Robert E. Doherty, Robert B. Hall, Shelby M. Harrison, Wesley C. Mitchell, Henry Allen Moe, Frederick Osborn, John G. Winant. In addition, three representatives each of the following societies: American Anthropological Association, American Historical Association, American Political Science Association, American Psychological Association, American Sociological Society, American Statistical Association.

National Bureau of Economic Research

1819 Broadway, New York City

Chairman, W. L. Crum; *President,* N. I. Stone; *Vice-President,* C. Reinold Noyes; *Treasurer,* Shepard Morgan; *Executive Director,* W. J. Carson; *Editor,* Martha Anderson.

Research Staff: Wesley C. Mitchell, *Director,* Moses Abramovitz, A. F. Burns, Solomon Fabricant, Milton Friedman, Thor Hultgren, Simon Kuznets, F. C. Mills, G. H. Moore, R. J. Saulnier, Leo Wolman, R. A. Young.

Directors at Large: C. I. Barnard, David Friday, O. W. Knauth, H. W. Laidler, Shepard Morgan, G. E. Roberts, Beardsley Ruml, Stanley Ruttenberg, Harry Scherman, George Soule, N. I. Stone.

Directors by University Appointment: E. Wight Bakke, Yale; C. Canby Balderston, Pennsylvania; W. L. Crum, Harvard; E. E. Day, Cornell; G. S. Ford, Minnesota; H. M. Groves, Wisconsin; Clarence Heer, North Carolina; Wesley C. Mitchell, Columbia; T. O. Yntema, Chicago.

Directors Appointed by Other Organizations: P. F. Brundage, American Institute of Accountants; Spencer Miller, Jr., American Federation of Labor; C. Reinold Noyes, American Economic Association; Winfield W. Riefler, American Statistical Association.

AFFILIATED REGIONAL AND ALLIED ASSOCIATIONS

Midwest Economic Association

Officers, 1942

President, Jesse S. Robinson, Carleton College. *Vice-Presidents,* C. E. McNeill, University of Nebraska, Richard L. Kozelka, University of Minnesota. *Secretary-Treasurer,* C. Woody Thompson, University of Iowa.

The Midwest Economic Association was founded in 1934, and has held annual meetings in April each year since. The programs begin Thursday evening and extend through Saturday forenoon. The area embraces Indiana, Illinois, Missouri, Kansas, Iowa, Nebraska, North Dakota, South Dakota, Minnesota, and Wisconsin. The organization is informal. Any person engaged in full-time teaching or research, or graduate study, or graduate study and research or teaching in the field of economics or commerce is eligible for membership. A registration fee of fifty cents is paid by those in attendance in lieu of a membership fee. The Association sponsors no publication. The annual program is prepared and the place of meeting is chosen by the Executive Committee consisting of the President, two Vice-Presidents, Secretary-Treasurer, and the past president last holding office.

Past Presidents

1934 S. L. Miller, State University of Iowa
1935 M. H. Hunter, University of Illinois
1936 Dale Yoder, University of Minnesota
1937 J. A. Estey, Purdue University
1938 John Ise, University of Kansas
1939 W. B. Taylor, University of Wisconsin
1940 J. E. Kirshman, University of Nebraska
1941 Harry Gunnison Brown, University of Missouri

Southern Economic Association

Officers, 1942

President, Malcolm H. Bryan, Federal Reserve Bank of Atlanta. *Vice-Presidents: Program,* Edgar Z. Palmer, University of Kentucky; *Membership,* Joseph J. Spengler, Duke University. *Editors,* Truman C. Bigham, University of Florida, R. P. Brooks, University of Georgia, B. U. Ratchford, Duke University. *Secretary-Treasurer,* James E. Ward, Clemson College. *Executive Committee,* the officers and three immediate past presidents, *ex officio.*

The Southern Economic Association was organized in November, 1930, as the outcome of three annual Southeastern Economic Conferences. The purpose of the Association is the stimulation of economic thought and research in connection with the economic problems of the South.

Membership dues are: annual $3.00, sustaining $5.00, contributing $10.00, life $60.00, institutional $10.00. Membership fees include $2.00 in payment for a year's subscription to the *Southern Economic Journal* at the special rate granted to members of the Southern Economic Association. The *Journal* is a quarterly published jointly by the Association and the University of North Carolina.

Past Presidents

1930 Walter J. Matherly, University of Florida
1931 Lee Bidgood, University of Alabama
1932 Tipton R. Snavely, University of Virginia
1933 J. B. Trant, Louisiana State University
1934 R. P. Brooks, University of Georgia
1935 Albert S. Keister, Woman's College of the University of North Carolina
1936 James W. Martin, Kentucky State Commissioner of Revenue
1937 Calvin B. Hoover, Duke University
1938 Truman C. Bigham, University of Florida
1939 Robert H. Tucker, Washington and Lee University
1940 John B. Woosley, University of North Carolina
1941 Ralph C. Hon, Southwestern College

Pacific Coast Economic Association

Officers, 1942

President, Bernard F. Haley, Stanford University. *Vice-President,* James H. Gilbert, University of Oregon. *Secretary-Treasurer,* Hampton K. Snell, University of Southern

California. *Editor,* Clark Kerr, University of Washington. *Executive Committee,* officers and Elmer J. Brown, University of Arizona, M. M. Stockwell, University of California at Los Angeles, Norman Buchanan, University of California. *Trustees,* Kenneth Duncan, Pomona College, R. B. Heflebower, State College of Washington, Rockwell D. Hunt, University of Southern California.

The Pacific Coast Economic Association, under a somewhat different name, was established in 1922, largely through the efforts of Alfred C. Schmitt, Edwin C. Robbins, Stephen I. Miller, and Eliot Jones. The first meeting was held in Portland, Oregon. Membership is of two kinds: (1) institutional members, originally confined to accredited universities and colleges west of the Rocky Mountains, but now changed to include any educational institution approved by the Executive Committee, west of the Rockies; (2) individual members, who may be any person interested in the theory, principles and problems of economics and business. In addition to the professional economists, many Pacific Coast businessmen are members.

One of the principles of the P.C.E.A. is to devote approximately one-third or more of each annual conference to problems of the Pacific Slope; another is to co-operate with the efforts of the Social Science Research Council.

The membership of the Association as of December 31, 1941, was 222. Institutional dues are $10.00 and $5.00, depending upon size of the institution; individual membership is $1.50 yearly. The principal publication is the annual proceedings.

Past Presidents

1922 Alfred C. Schmitt, Oregon State College
1923 Eliot Jones, Stanford University
1924 Rockwell D. Hunt, University of Southern California
1925 Howard T. Lewis, University of Washington
1926 Edwin C. Robbins, University of Oregon
1927 Theodore H. Boggs, University of British Columbia
1928 Ira B. Cross, University of California
1929 Howard S. Noble, University of California at Los Angeles
1930 Thomas A. Beal, University of Utah
1931 John A. Bexell, Oregon State College
1932 Shirley J. Coon, University of Washington
1933 Clement Akerman, Reed College
1934 Reid L. McClung, University of Southern California
1935 W. L. Wanlass, Utah State College
1936 Kenneth Duncan, Pomona College
1937 John B. Canning, Stanford University
1938 James K. Hall, University of Washington
1939 Richard B. Heflebower, Washington State College
1940 Arthur G. Coons, Claremont Colleges
1941 Robert D. Calkins, University of California

Economic History Association

Officers, 1942

President, Edwin F. Gay, Huntington Library. *Vice-Presidents,* Herbert Heaton, University of Minnesota, Earl J. Hamilton, Duke University. *Secretary-Treasurer,* Shepard B. Clough, Columbia University. *Board of Trustees,* Wesley C. Mitchell, Columbia University, Harold A. Innis, Toronto University, E. A. J. Johnson, New York University, Edward C. Kirkland, Bowdoin College, Solon J. Buck, National Archives, Ralph M. Hower, Harvard Graduate School of Business Administration, representing the Business History Society, Herbert A. Keller, Chicago, representing the Industrial History Society, Edward E. Edwards, U. S. Department of Agriculture, representing the Agricultural History Association. *Editor,* E. A. J. Johnson. *Associate Editor,* Shepard B. Clough. *Assistant Editor,* Winifred Carroll, New York City.

The Economic History Association was founded in December, 1940. It is open to all historians, statisticians, economists, and businessmen, who find profit from historical investigations. It publishes semiannually the *Journal of Economic History.* Annual meetings are held in September and semiannual meetings in conjunction with the American Historical Association and the American Economic Association.

Membership dues, which include subscriptions to the *Journal,* are: American and Canadian members $3.00; foreign members $3.25; and student members $2.00.

ALLIED SOCIAL SCIENCE ASSOCIATIONS

The Secretaries of Which Are Formally Organized in the Interests of Conducting Joint Annual Meetings

1942

	Presidents	Secretaries
American Accounting Association	H. F. Taggart, Washington, D.C.	Robert L. Dixon, University of Chicago
American Association for Labor Legislation	James T. Chamberlain, New York City	John B. Andrews, New York City
American Association of University Teachers of Insurance	Edison L. Bowers, Ohio State University	Chester A. Kline, University of Pennsylvania
American Business Law Association	Essel R. Dillavan, University of Illinois	Robert E. Lee, Temple University
American Economic Association	Edwin G. Nourse, Brookings Institution	James Washington Bell, Northwestern University
American Farm Economic Association	George S. Wehrwein, University of Wisconsin	Asher Hobson, University of Wisconsin
American Finance Association	Charles L. Prather, Syracuse University	Louis J. Long, Allegheny College
American Marketing Association	Vergil D. Reed, Washington, D.C.	Albert Haring, Indiana University
American Sociological Society	Dwight Sanderson, Cornell University	Conrad Taeuber, Washington, D.C.
American Statistical Association	Alfred J. Lotka, New York City	Richard L. Funkhouser, American University
Econometric Society	Wesley C. Mitchell, Columbia University	Alfred Cowles, III, University of Chicago
Institute of Mathematical Statistics	C. C. Craig, University of Michigan	E. G. Olds, Carnegie Institute of Technology
Rural Sociological Society	C. E. Lively, University of Missouri	Robert A. Polson, Cornell University

TABLE I

MEMBERSHIP CLASSES AS OF MAY 15

	1941	1942
Annual	3,176	3,404
Junior	83	97
Family	14	24
Complimentary	15	20
Honorary	19	18
Life	37	38
Totals	3,344	3,601

TABLE II

MEMBERSHIP STATISTICS, 1886-1941, YEAR-END FIGURES

Year	Annual	Life	Honorary	Total	Year	Annual	Life	Honorary	Total
1886				182*	1914	2,060	81	8	2,149
1887				300*	1915	2,004	80	7	2,091
1888				500*	1916	2,033	80	7	2,120
1889				†	1917	2,077	87	6	2,170
1890				635*	1918	2,130	87	5	2,222
1891				718*	1919	2,125	86	5	2,216
1892				†	1920	2,213	84	4	2,301
1893	482	73	17	572	1921	2,230	102	3	2,335
1894	484	72	16	572	1922	2,296	102	8	2,406
1895	485	71	16	572	1923	2,479	98	10	2,587
1896	479	74	15	568	1924	2,691	98	9	2,798
1897	477	71	15	563	1925	2,816	92	8	2,916
1898	488	69	14	571	1926	2,538	88	14	2,640
1899	498	68	12	578	1927	2,562	86	16	2,664
1900	541	69	11	621	1928	2,620	78	12	2,710
1901	722	67	11	800	1929	2,671	79	16	2,766
1902	782	67	11	860	1930	2,704	76	17	2,797
1903	757	67	11	835	1931	2,626	64	15	2,705
1904	792	67	11	870	1932	2,488	62	19	2,569
1905	800	66	11	877	1933	2,306	58	20	2,384
1906	794	66	11	871	1934	2,433	54	19	2,506
1907				1,002*	1935	2,473	53	18	2,544
1908				868	1936	2,556	48	17	2,621
1909				1,205	1937	2,652	44	17	2,713
1910	1,440	69	10	1,519	1938	2,764	41	19	2,824
1911	2,103	78	9	2,190	1939	2,906	40	20	2,966
1912	2,369	88	9	2,466	1940	3,089	40	19	3,148
1913	2,157	83	9	2,249	1941	3,406	37	19	3,462

* Total includes members and subscribers.
† Figures for these years not available.

TABLE III

MEMBERS AND SUBSCRIBERS FOR SELECTED YEARS
YEAR-END FIGURES

Year	Members	Subscribers	Total
1893	572	82	654
1902	860	151	1,011
1910	1,519	183	1,702
1920	2,301	565	2,866
1930	2,797	1,056	3,853
1935	2,544	1,118	3,662
1936	2,621	1,178	3,799
1937	2,713	1,219	3,932
1938	2,824	1,270	4,094
1939	2,966	1,292	4,258
1940	3,148	1,327	4,475
1941	3,462	1,319	4,781

NOTE: Some of the figures for earlier years have been estimated.

TABLE IV

Geographical Analysis of Members and Subscribers in the United States

(As of May 15, 1942)

States	*Members*	*Subscribers*	*Total*
Northeast			
Maine	14	5	19
New Hampshire	22	6	28
Vermont	16	7	23
Massachusetts	213	43	256
Rhode Island	13	3	16
Connecticut	65	14	79
New York	657	123	780
Delaware	11	3	14
Pennsylvania	221	54	275
New Jersey	103	29	132
Maryland	110	16	126
West Virginia	12	10	22
District of Columbia	506	55	561
	1,963	368	2,331
Middle			
Ohio	135	52	187
Michigan	65	33	98
Indiana	60	20	80
Wisconsin	51	20	71
Illinois	288	58	346
Minnesota	51	34	85
Iowa	42	20	62
Missouri	56	32	88
	748	269	1,017
Southwest			
Oklahoma	16	16	32
Texas	48	39	87
New Mexico	4	3	7
Arizona	8	3	11
	76	61	137

States	*Members*	*Subscribers*	*Total*
Southeast			
Tennessee	33	20	53
North Carolina	47	20	67
Mississippi	2	8	10
Virginia	166	18	184
Kentucky	21	12	33
South Carolina	13	9	22
Georgia	17	17	34
Alabama	14	13	27
Arkansas	16	10	26
Florida	32	10	42
Louisiana	34	13	47
	395	150	545
Northwest			
North Dakota	3	4	7
South Dakota	4	7	11
Nebraska	23	15	38
Kansas	28	21	49
Montana	9	4	13
Wyoming	3	4	7
Colorado	29	9	38
Idaho	2	3	5
Utah	13	4	17
	114	71	185
Far West			
Oregon	16	10	26
Washington	33	20	53
California	146	71	217
Nevada	10	—	10
	205	101	306

Summary

	Members	*Subscribers*	*Total*
Northeast	1,963	368	2,331
Middle	748	269	1,017
Southwest	76	61	137
Southeast	395	150	545
Northwest	114	71	185
Far West	205	101	306
	3,501	1,020	4,521

TABLE V

GEOGRAPHICAL ANALYSIS OF MEMBERS AND SUBSCRIBERS FOR SELECTED YEARS

UNITED STATES AND FOREIGN

	United States and Possessions								Other Countries*							
	N.E.	Middle	S.E.	S.W.	N.W.	Far West	Possessions	U. S. Total	Europe	Africa	Australasia	No. Amer.	Cent. Amer.	So. Amer.	Foreign Total	Grand Total
1933																
Members	1,353	596	125	57	83	166	—	2,380	65	6	27	37	3	3	141	2,521
Subscribers	237	180	78	47	55	70	7	674	109	6	132	25	2	7	281	955
Total	1,590	776	203	104	138	236	7	3,054	174	12	159	62	5	10	422	3,476
1940																
Members	1,686	712	278	59	110	192	7	3,044	58	4	9	34	2	2	109	3,153
Subscribers	329	246	126	55	63	100	16	935	95	13	131	32	5	12	288	1,223
Total	2,015	958	404	114	173	292	23	3,979	153	17	140	66	7	14	397	4,376
1941																
Members	1,772	735	325	78	114	211	5	3,240	45	5	7	38	3	4	102	3,342
Subscribers	362	261	150	56	69	100	17	1,015	53	10	133	30	3	16	245	1,260
Total	2,134	996	475	134	183	311	22	4,255	98	15	140	68	6	20	347	4,602
1942																
Members	1,963	748	395	76	114	205	9	3,510	34	5	4	36	5	7	91	3,601
Subscribers	368	269	150	61	71	101	7	1,027	30	11	43	31	7	23	145	1,172
Total	2,331	1,017	545	137	185	306	16	4,537	64	16	47	67	12	30	236	4,773

* Europe: British Isles, Italy, France, Germany, Russia, Switzerland, Sweden, Norway, Rumania, Poland, Hungary, Austria, Spain, Belgium, Czechoslovakia, Holland, Finland, Denmark, Turkey, Syria, Estonia, Greece, Latvia, Yugoslavia, Portugal.
Africa: Union of South Africa, Egypt, French North Africa, Italian East Africa, Zanzibar.
Australasia: Australia, New Zealand, Tasmania, China, India, Burma, Japan, Ceylon, Indo-China, Straits Settlement, Manchukuo, Chosen, Dutch East Indies.
North America: Canada, Cuba, British West Indies, Haiti.
Central America: Mexico, Salvador, Nicaragua.
South America: Argentina, Chile, Uruguay, Peru, Ecuador, Brazil, Colombia, Venezuela, Bolivia.

BOOK REVIEWS AND TITLES OF NEW BOOKS

Business Finance; Insurance; Investments; Securities Markets

Public Control of Business; Public Administration; National Defense and War

Industrial Organization; Price and Production Policies; Business Methods

Marketing; Domestic Trade

Mining; Manufacturing; Construction

Transportation; Communication; Public Utilities

Agriculture; Forestry; Fisheries

Economic Geography; Regional Planning; Urban Land; Housing

Labor and Industrial Relations

Social Insurance; Relief; Pensions; Public Welfare

Consumption; Income Distribution; Coöperation

Population; Migration; Vital Statistics

Unclassified Items

RICHARD THEODORE ELY

Sixth President of the American Economic Association, 1900-01

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Richard T. Ely

The American Economic Review

VOLUME XXXII DECEMBER, 1942 NUMBER FOUR

ASPECTS OF THE BASING-POINT SYSTEM

By ARTHUR SMITHIES

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It may seem surprising that, with the imposing array of economic talent that has addressed itself to the problem, the basing-point system has not already been exhaustively analyzed. But it has not, and this is due I think to the antitrust legislation which has centered controversy on the question whether the basing-point system is monopolistic or competitive in nature rather than directed attention to an explanation of its operation. Moreover, the legalistic method of examining witnesses before the Federal Trade Commission limits them to opinions on the question of "competitiveness" and does not give them an opportunity for extensive analysis. Consequently, much testimony is devoted to showing that the practices of the basing-point industries do not conform to those of industries, *e.g.*, agriculture, which are generally regarded as competitive, and do bear some resemblance to practices, international dumping, for instance, which are generally regarded as monopolistic.[2]

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[2] The transcript records of the hearings in the Cement Case now before the Commission are most illuminating in enabling the economist to evaluate the usefulness of legal methods

These analogies are no doubt instructive, but they do not lead to a solution of the problem of the mechanics of the basing-point system.

The methods employed before the Commission may be judged by the results to which they lead. In the Cement Case before the Commission in the fall of 1942, counsel for the Commission states: "If a single corporation owned all the mills and attempted to operate them, that is just what it would do to prevent them from competing with each other. Such a monopoly would act just as respondent manufacturers under separate ownership are acting when they use the [multiple] basing point system."[3] This statement is incorrect. A monopolist would never adopt the basing-point system, since he could always increase his profits by leaving the price pattern unchanged and eliminating cross-hauling. It follows that if, as is contended by its opponents, the existence of the system implies collusion, it is collusion short of complete agreement. On the other side, it is contended for the respondents in the Cement Case: "The term [imperfect competition] has no relation to monopoly, does not shade into monopoly. . . . It is a natural phenomenon and is the inevitable form of competition in all manufacturing industry. It is entirely consistent with free competition and does not imply less or weaker competition, since it is frequently more keen and vigorous than 'perfect competition' would be."[4] Suffice it to say that no economist would endorse this statement; but the statement was made by learned counsel who had heard the testimony of a galaxy of economic talent.

Convincing evidence can certainly be adduced that the basing-point system neither conforms to the economist's ideal of perfect competition, nor to his anathema, pure monopoly. But surely it is obvious that the monopoly-competition controversy from an economic point of view is barren, since the basing-point system involves imperfect competition, containing elements both of competition and monopoly; and to abolish the basing-point system and require, say, f.o.b. mill pricing would merely substitute one form of imperfect competition for another. This is the point of view of J. M. Clark[5] and M. G. de Chazeau.[6] Although these writers have clearly recognized the nature of the prob-

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lem and have contributed valuably to explaining the *raison d'être* of the basing-point system, they have not sought to explain the process of determination of the base prices themselves. It is with that problem that this paper is chiefly concerned. We shall be concerned only with problems of explanation, and not with public policy.[7]

In Section I we shall discuss a multiple basing-point system where there are two identical competitors, or two identical groups of competitors situated symmetrically at each of two points in a uniform linear market. In Section II the assumptions of identity, uniformity and symmetry will be relaxed, while in Section III we shall consider the problem of non-base mills.

In Sections I and II it seems desirable not only to determine equilibrium conditions for a multiple basing-point system, but to compare the results with those that would have obtained had the industry concerned sold on an f.o.b. mill basis, on the one hand, and as a single, unregulated monopolist on the other. In Section III our concern will be chiefly with the problems of new firms entering the industry and our main interest will be in comparing the situation of a new non-base mill with that of a mill which establishes a new basing point at its production point.

In order to achieve definite results, we must necessarily be concerned with simplified models. Although the results naturally cannot be proved to be valid for more complicated situations, I do not see any reason why the general principles which govern the behavior of the simple models should not apply in more complicated cases. Although our problem can best be handled by mathematical methods, I shall attempt to state the argument verbally, in view of the interest of the subject for non-mathematical economists. However, where the verbal argument needs to be supplemented, I shall include mathematical proofs in an appendix.

I

The Multiple Basing-Point System. Let us assume that there are two producers A and B who attempt to maximize their profits in a linear market of finite length, producing a uniform product for which there is a known demand curve, relating price to quantity sold, at every point of the market, such that quantity is a decreasing function of price and that the second derivative is of the same sign for all relevant prices; that is, the demand curve is either concave, convex, or linear throughout its whole length. This is a sufficient but not a necessary condition for the assumptions of decreasing marginal revenue that will be

[7] By this I mean I shall not attempt to answer the question whether the basing-point system should be retained or abolished. We shall necessarily be concerned with the validity of arguments that have been advanced for the abolition of the system.

made in the course of the argument. I shall assume also, as is in fact the case for the chief basing-point industries,[8] that marginal costs for each producer are constant. I shall further assume that each mill is a basing point, so that the delivered price at every point in the market is computed by adding to the price charged at the nearest basing point the freight cost from that basing point to the point of delivery. I shall assume that the freight rate is uniform per unit of distance and that its relation to the demand conditions is such that sales are made by one or both producers at every point of the market. Lastly, I shall assume that a producer will not make sales that do not cover his marginal costs plus freight to the point of delivery. The situation can best be illustrated by the following diagram:

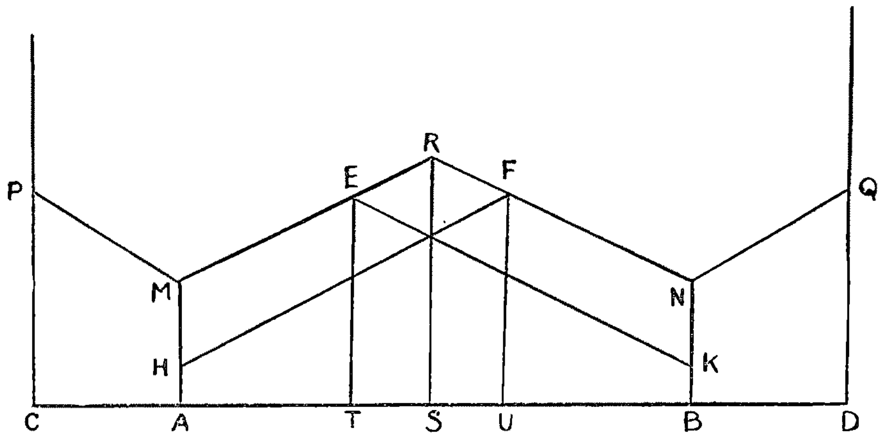


FIG. 1

CD represents a linear market and A and B the positions of producers A and B respectively. AM and BN are their respective base prices, p_1 and p_2. The lines MP and MR show delivered prices based on A, while NR and NQ show those based on B. The slopes of these delivered price lines will depend on the freight rate. AH and BK are the (constant) marginal costs of the two producers; the lines HF and KE, obtained by adding freight to these marginal costs, will show the minimum delivered prices that each producer is prepared to accept. If these lines intersect RN and RM at distances SU and ST from S, then producers A and B will sell exclusively in the regions CT and UD and will share the region TU. Except where otherwise expressly stated, we shall assume that if the market at any point is shared by A and B, it is shared equally. If HF and KE do not intersect RN and RM, but NB and MA, then each producer can make sales at more than

[8] See Clark, *op. cit.*, p. 478.

marginal costs over the whole market, which will consequently be shared.

Producer A will then realize uniform mill-nets in respect of his sales in the region CS. For any sales he may make in the region SB he will realize a mill-net equal to his base price less twice the freight cost from S to the point of delivery; that is, he will absorb twice the freight cost from S to the point of delivery. If he also sells in B's hinterland BD, he will, in respect of those sales, absorb twice the freight cost from S to B. The same thing holds, *mutatis mutandis,* for B.

The assumptions we are making in this section imply that CA = BD, AH = BK, and the demand curve at every point of the market is the same. In this case we can, without loss of generality, assume that CA and BD are zero; this is, that the competitors are situated at the ends of the market. It follows from considerations of symmetry that where the competitors are identical in this sense, and where their expectations of each other's behavior is the same, their equilibrium prices and profits will be equal.[9]

Degrees of Competition. I shall preface the argument by recording agreement with the point of view that the basing-point system is inconsistent with perfect competition. If A and B consist of groups of competitors, whom we must assume to be producing at increasing marginal cost, sufficiently large for each competitor to believe that his own action will have no effect on the market price, it is obvious that any competitor situated, say, at A will believe that he can realize higher mill-nets on sales in AS than in SB, so a determinate equilibrium will be established with each producer realizing equal mill-nets on every unit of output and competition will equalize mill-nets as between producers.[10]

In the basing-point system, as in other cases of imperfect competition, the equilibrium position is indeterminate unless the conjectural assumption which the competitors make as to each other's behavior is known. In the present case it seems most reasonable to assume that these assumptions will concern price reactions and, in the case of identical competitors, it seems reasonable to assume that the conjectures that are made will fall between the extreme situations where each

[9] If any reader objects that this model is too abstract to be useful, I reply that it is no more abstract than the hypothetical questions which are formulated for the consideration of expert witnesses before the Federal Trade Commission. It is on the basis of answers to these questions that the Commission presumably makes up its mind.

[10] This conclusion depends on the usual assumptions of perfect competition; in particular, on the assumption that the whole quantity offered for sale will in fact be sold for what it will fetch. If, however, the market price is not adjusted instantaneously to supply, producers at A may attempt to dump their surplus products in SB, and similarly for producers at B. But if the remaining requirements for perfect competition are met, this situation can only be of transitory significance.

competitor assumes that his rival will set a price equal to his own, on the one hand, and where each expects that his rival will hold his price unchanged, on the other. These extreme cases I have elsewhere termed "quasi-coöperation" and "competition."[11] Although in general the conjectures that are actually made probably lie between these limits in the sense that a competitor will expect his price changes to be met at least partially, the nature of the problem can be best demonstrated by considering the extremes.

Quasi-coöperation. Let us therefore consider first the case of quasi-coöperation. In the basing-point problem, this will imply that when either competitor sets a base price he will expect his rival to set an equal base price.

It was shown in the f.o.b. paper that, if the two competitors sold on a uniform mill-net basis and acted as quasi-coöperators, they would charge the same prices and would jointly realize the same (equal) profits as would a monopolistic owner of the two plants who restricted himself to selling of an f.o.b. mill basis.[12] The reason for this is that each competitor assumes that he can gain no new territory through price cutting, but must be content with maximizing his revenue in half the market. Therefore, he will charge the ideal monopoly price in his half of the market. It is obvious in this case that f.o.b. mill selling is more profitable than basing-point selling, since as we have already seen, the mere existence of the cross-haul assumes that the total basing-point profits of the two producers must be less than the two-plant monopolist's profits. Also on our present assumptions that the competitions are identical, we can conclude that in equilibrium their profits will be equal. Hence we can conclude that, in quasi-coöperation, they will have neither a joint nor a several interest in preferring the basing-point system to f.o.b. mill selling.

Next let us consider the (equal) prices that will be charged by the two producers after they have had time to reach an equilibrium position. Throughout this paper, I shall describe the maximization profits as a process by which each producer sets a price such that his (expected) net marginal revenue, with respect to his mill price, is equal to zero. By "net marginal revenue" I mean the total increment to receipts less the increment to freight costs and prime costs arising from a small change in the mill price. So far as costs are concerned, this merely means that we work in terms of the net prices MH and NK in Figure 1, rather than the total prices AM and BN.[13]

[11] "Optimum Location in Spatial Competition," *Jour. of Pol. Econ.*, Vol. XLIX (June, 1941), pp. 423-39. I shall refer to this paper as the "f.o.b. paper."

[12] This qualification is of course important. See my paper "Monopolistic Price Policy in a Spatial Market," *Econometrica*, Vol. 9 (Jan., 1941), pp. 63-73.

[13] Since the problems we are concerned with involve price adjustments, it seems preferable

For such a position to be a maximum it is clearly necessary that, in the neighborhood of the equilibrium point, marginal revenue must be decreasing as the price increases. Our assumptions as to the shape of the demand function will ensure that this condition holds over the whole price range.

Now what will be the behavior of the quasi-coöperator under the basing-point system? It is clear from Figure 1 that if producer A expects p_2 to be equal to p_1, this implies that he will expect TS and SU to be equal; that is, his total expected sales corresponding to a given base price will be equal to those of an f.o.b. mill seller. Hence he is interested in the same marginal revenue before any deduction is made for freight as the f.o.b. seller, but his marginal revenue net of freight must necessarily be different because of the effects of the cross-haul. It may be seen from Figure 1, that an increase of p_1 and p_2 will increase both TS and SU, that is, the distance over which cross-hauling takes place will increase; this factor will tend to decrease marginal revenue net of freight as compared with the f.o.b. case. On the other hand, an increase of base prices will reduce sales per unit of distance in TS and SU, and so reduce the amount of cross-hauling done. Consequently, for this reason marginal revenue net of freight will tend to be greater than in the f.o.b. case.

Which of these two conflicting influences on net marginal revenue is the greater depends on the elasticity of the relevant region of the demand curve. The more elastic the demand curve, the greater will be the second influence, and *vice versa;* and net marginal revenue may be greater or less than in the f.o.b. case. Consequently the equilibrium basing-point prices may be greater or less than the equilibrium f.o.b. prices, depending on the shape of the demand curve. If, however, demand and cost conditions are such that each competitor sells over the whole market, the influence of changes in the area over which cross-hauling occurs will be absent, and it follows that in equilibrium the basing-point system will yield higher prices than f.o.b. mill pricing. Equilibrium may be possible in either of these situations; and it is consistent with the assumptions of quasi-coöperation to say that the competitors will choose the more profitable of the two possible equilibrium positions.

Thus we reach the conclusion that in the case of quasi-coöperation

to pursue our analysis in terms of marginal price revenue rather than the more conventional marginal quantity revenue. This change requires some slight readjustment on the part of the reader; in particular, where marginal quantity revenue is positive, marginal price revenue is negative, and *vice versa.* In what follows we shall have to consider relative marginal revenues under various pricing policies since, in equilibrium, net marginal revenue (as above defined) must be decreasing, and since it follows that if marginal price revenue at any price is greater under price policy A than under price policy B, the equilibrium price will be greater in the former case than the latter.

the basing-point system will result in lower profits to the producers and higher or lower prices to the public than either complete monopoly or the f.o.b. mill system. The question then arises: Is it conceivable that the basing-point system would be retained in these conditions? The answer is, I think, that a basing-point system would never be adopted by identical quasi-coöperators, but if that system had been adopted for some reason in the past, it could and would continue under quasi-coöperation unless and until there were an agreement to eliminate it. For neither producer could expect the other to follow him in eliminating freight absorption in the absence of an agreement. However, it seems highly improbable that such an agreement would not be made. In this case we therefore have a possibility of collusion not to establish the basing-point system, but to abolish it.

Price Competition. In price competition each producer makes the assumption that when he changes his own base price his rival will hold his price unchanged. The essential difference between this case and quasi-coöperation is that a competitor will expect a price change by him not only to affect his revenue within a given area, but also to affect the size of the area which he expects to occupy exclusively.

If the producers are selling on an f.o.b. mill basis, it has been seen in the f.o.b. paper that producer A will, in this case, expect to increase the distance AS, that is, enlarge his total market area by a price cut. Thus each competitor will have a greater inducement to cut prices than in the case of quasi-coöperation. That is, each competitor's expected net marginal price revenue at a given price will be less in the case of price competition than quasi-coöperation. Consequently, price reductions will be carried further, and equilibrium established at lower (equal) mill prices than in the cases of quasi-coöperation or two-plant monopoly.

The basing-point case is somewhat more complicated and two situations must be distinguished. (1) As we have seen, if the base prices are sufficiently high relative to the cost of transport over the whole market plus marginal costs, the two sellers will share the whole market. (2) If, however, the base prices are sufficiently low, we have the situation depicted in Figure 1, where A and B occupy, respectively, AT and BU exclusively. Either of these situations may characterize the equilibrium position, depending on the nature of the demand curve.

(1) If the producers are both charging prices such that the first case obtains, small changes in price will not affect the market area of a producer, since by definition they are both sharing the whole market. The only change possible is that, if B's price remains unchanged, A, by cutting his price, can increase the region AS in which he sells f.o.b. mill at the expense of the region BS in which he absorbs freight. How-

ever, if the price adjustments are small, as they will be in the final stages of the process of attaining equilibrium, this will have a negligible effect on profits and is, therefore, irrelevant to the determination of the equilibrium position. We are therefore left with the conclusion that the equilibrium position will be determined by each producer attempting to maximize his profits in half the market. That is, they will act jointly as a single monopolist and the result of price competition will be identical with that of quasi-coöperation.

(2) An equilibrium position, however, may not exist with both producers selling over the whole market, so that we have to consider our second case where each producer sells in only part of the market, as shown in Figure 1. In this case a seller still cannot enlarge his total selling region by a price change, for U which marks the end of A's region is independent of A's price, being determined by B's price and A's marginal costs. Moreover, a small shift in the point S is again of negligible importance. But A can, by a price cut, reduce B's territory since his price cut will shift the point T to the right. In other words, A can increase the region in which he is selling exclusively and reduce the region in which he only makes half the sales.

In this case it may be shown[14] that net marginal price revenue is always greater than in the case of f.o.b. mill selling, which, together with our assumption that equilibrium exists, implying decreasing net marginal revenues, requires that the equilibrium base prices are greater in the basing-point case than in the f.o.b. mill case. On the other hand, when we compare this basing-point equilibrium with the monopoly position, no definite conclusion is possible. The possibility of driving his competitior out of part of the market will contribute to making marginal price revenue less in the basing-point case than in the monopoly case. But with the general type of demand curve we are assuming, the fact that the nearer parts of his market, which he occupies exclusively, are more important to a producer than the remoter parts which he shares will make for a higher mill price than in the monopoly case, since in the former case it will be more profitable than in the latter to charge a smaller-than-optimum delivered price near his mill in order to increase distant profits. Which of these conflicting influences on the equilibrium price will prevail is uncertain, and the prices under the basing-point system may be greater or less than if the two plants were in the hands of a single monopolist.

So far we have assumed that an equilibrium position may exist *either* with both producers sharing the whole market *or* with them sharing only part of the market. It is, however, possible that two alternative equilibrium positions could exist simultaneously, one at high

[14] See Mathematical Appendix.

prices with both producers selling in the whole market, the other at lower prices with the producers sharing only part of the market. Although one of the equilibria will doubtless be more profitable for both producers than the other, it seems, in contrast with the case of quasi-coöperation, inconsistent with the independence of action implicit in the notion of competition to say that they will choose the more profitable of the two. Which final position is adopted depends, I think, on the initial prices in the adjustment process. Since the competitors are identical, it may be assumed that their initial prices are identical and the equilibrium that will be finally reached will depend on the direction in which it is profitable for both producers to move from the initial position. There will presumably be one critical initial position where the producers would expect to increase their profits by movements in either direction, in which case we may suppose that they will choose the direction which yields the greater marginal revenue.

We turn next to a comparison of profits. As we have seen, the basing-point profits of each producer are always less than they would be if the two plants were operated by a single monopolist. Whether or not the basing-point system is more profitable than f.o.b. mill pricing depends on the cost of transport over the length of market in relation to the shape of the demand function at every point. This may be seen by considering two extreme cases. First, suppose the freight rate were zero. Then two basing-point producers would charge the monopoly price and would make monopoly profits. Such profits are, *ex definitione,* greater than the f.o.b. profits, which in this case, as a matter of fact, would be zero. On the other hand, it has been shown in the f.o.b. paper[15] that the cost of transport may be sufficiently high for two f.o.b. mill sellers to act as single monopolists in their own halves of the market. In this case f.o.b. profits would be, *ex definitione,* greater than basing-point profits. We may conclude therefore that there is a critical value of the cost of transport below which the basing-point system is more profitable than the f.o.b. system and above which the reverse holds.

We may now summarize the discussion of price competition. Where two identical producers engage in price competition, the basing-point system will reduce expectations of the profitability of price cutting so that the final equilibrium base prices will in all cases be greater than those prevailing under f.o.b. mill pricing; and they may be greater than those set by a single monopolist. These higher prices will result in higher profits than in the f.o.b. situation if the freight rate is sufficiently low. The upshot of it is that, for identical producers, the basing-point system is a clumsy but automatic device for protecting the

[15] Smithies, *Jour. of Pol. Sci.,* Vol. XLIX (June, 1941), p. 435.

competitors from their own self-destructive tendencies.

Conclusions as to Identical Competitors. In the discussion thus far, I have assumed the basing-point system to exist, but have made no attempt to explain how it would come into being. It is hardly conceivable that it could be adopted by express agreement among the producers. In his testimony in the Cement Case, Professor Viner said: "In thinking about the structure, I have not been able to see how you could design any worse one, from the point of view of the national economy, assuming you had free choice."[16] I am inclined to think that two identical competitors would be as reluctant as would Professor Viner to enter into an agreement to establish the system. The chief possibility for the development of the system seems to lie in one competitor, say, A, thinking that he can sell in SV on a freight absorption basis but that he will not provoke retaliation from B. But where A and B are identical, such an expectation certainly seems more than optimistic. On the other hand, once the system was established, neither competitor could afford to abandon his freight absorption sales unless he expected his rival to do likewise, so that the basing-point practice could continue to exist, even though both producers realized they were better off without it, because neither might be prepared to take the initiative for an agreement to abolish it. These considerations are sufficient to explain why mutual invasion should occur and persist. But why should delivered prices be identical at any point where both competitors are making sales? This is understandable if it is assumed that A realizes that, since B is in a stronger position than he is in the region SU, he would probably lose any price war that developed; and that B feels the same way about A.

It must be obvious that our analysis has not provided a convincing *raison d'être* for the basing-point system, although I hope it has thrown some light on the mechanics of the system and on the validity of indiscriminate allegations that collusion is implicit on the system. This negative result contributes to my belief that the existence of the system depends chiefly on its possibilities in giving advantages to some competitors at the expense of others. Where the competitors are identical such possibilities do not exist; and it follows therefore that a major part of our explanation must depend on the extent to which the assumptions that we have hitherto made are not fulfilled. It is to this question that we now turn.

II

The assumptions that we have hitherto made and now propose to relax are as follows:

[16] Commission's Brief, Part II, p. 70.

1. Marginal costs for both producers are equal.
2. If the two producers share any part of the market, they share it equally.
3. The demand function at every point of the market is the same.
4. The producers are situated symmetrically with respect to the ends of the market.

We shall now consider in order the cases where these assumptions are not fulfilled.

1. *Unequal marginal costs.* Let us assume that marginal costs for B are at a higher constant level than for A.

It will be well to begin the discussion by considering the appropriate adjustment if the two producers were selling on an f.o.b. mill basis. If A and B make the same assumptions as to each other's behavior, it follows from general principles of imperfect competition analysis that equilibrium will be attained with B charging a higher price than A, but the margin between B's mill price and his marginal costs is smaller than for A. Any revision of the conjectural assumptions on the basis of experience will be in the direction of convincing the competitors that A is a lower-price setter than B, and such revision will tend to reinforce the tendency toward disparity of the margins of mill price over marginal costs.[17]

Now, as we have seen, in any f.o.b. equilibrium situation, it would be profitable for one producer to absorb freight in order to sell into his rival's territory, provided he thought his competitor would not retaliate. If the margin between B's mill price and his marginal costs is smaller than A's, A can rely on SU being greater than ST and the marginal cost difference may be sufficiently great to make it profitable for A to sell in SU, even though he expects B to share his market ST. But might B retaliate by reducing his mill price in order to drive A out of part of SU? He may not. It may be more profitable for B to exploit the territory UD that remains to him exclusively by charging higher prices than to try to repel A's invasion. But even if B does retaliate by cutting his base price, the marginal cost difference may be sufficiently great to preserve A's advantage, and, therefore, to preserve A's interest in the basing-point system. We thus have a more solid possible explanation of the basing-point system than those advanced for cases where the competitors were identical. For, whereas in those cases our explanation rested largely on assumptions that A and B made mistakes as to each other's behavior, we have here a case where it is to the interest and within the power of A, acting with perfect foresight, to force B to acquiesce in adopting a basing-point system.

[17] I am of course assuming that the difference in marginal costs is not sufficient to make it possible or profitable for A to cut B out of the market entirely.

2. *Unequal shares in the market.* When we abandon the assumption that any point of the market is shared equally by A and B, if it is shared at all, we may do so in two ways. First, we may assume that A and B consist not of single producers, but of unequal groups of identical producers. Then if there are *n* such producers, the same probability argument that led us to assume that two producers would share the market equally would lead us to assume that where there are *n* producers each would make $1/n$ of the total sales at any point where they all did in fact sell.[18]

The second way in which sales at any point may not be shared equally by A and B is where the market is imperfect. Now the existence of uniform delivered prices implies that the market is substantially perfect as to price. That is, if prices are unequal, the whole demand at any point will be supplied by the producer charging the lower price. But that does not imply that the market may not be imperfect as to some other factor, such as reputation of the producer for prompt delivery, business connections, and so forth. Differences between A and B in these respects will in general result in unequal sharing of the market.

Let us assume then that A, denoting either a single producer or a group, will obtain more and B less than half the sales at any point where they charge equal prices; but if either A or B sells in any point exclusively, let us assume that at given prices their sales would be the same; and in order to isolate this phenomenon, let us assume that the marginal costs of A and B are constant and equal. Our analysis of this case follows very much the same lines as that of marginal-cost differences. If the two sellers are selling on a uniform mill-net basis they will obviously share the whole market equally, and will make equal profits—provided they make the same assumptions as to each other's competitive behavior. Then if A can occupy a sufficiently large share of any market in which he sells, it will be profitable for him to invade B's territory on a freight absorption basis, notwithstanding any retaliation that B can profitably undertake. Thus it will be to A's interest and to B's disadvantage to substitute a multiple basing-point system for the uniform mill-net system. Again, we have a plausible explanation of the system, which, in fact, may be relevant to the cement industry which has a large concentration of producers in the Lehigh Valley. But if our

[18] This assumption is not without its difficulties, for the *n* producers must be assumed to be distinct from each other in some special sense. For suppose there were but two producers sharing a market equally, and then suppose one of them merely published and distributed two catalogues, it would seem to follow from our argument that he would immediately capture two-thirds of the market. The difficulty could be avoided, however, if we assume that, if this were possible, each competitor would realize that his rival could do the same thing, so that they agree tacitly only to publish one catalogue each.

reasoning is correct it affords small comfort to those who allege that the existence of the basing-point system implies collusion between A and B.

3. *Non-identical Demand Functions at Every Point of the Market.* Here there are three situations to consider: (1) The demand may be more concentrated near the center of the market than near the points of production; (2) concentration at the ends may be greater than at the center; (3) demand may be more concentrated in the vicinity of A than in the vicinity of B. By "concentrated," I here mean that a greater quantity can be sold for a given price. Let us consider these cases in order.

(1) Let us here suppose as an extreme case that the demand exists only in a region about the center of the market sufficiently narrow for the basing-point system always to result in sales by the two identical producers over the whole of that region. In this situation our previous analysis shows that if the producers act "competitively" as to their base prices, they will in fact charge the ideal monopoly price. Moreover, the concentration at the center means that, for a given value of sales, the cost of freight absorption will be less than if the demand were more widely spread. This will contribute to making the basing-point system more profitable relative to f.o.b. mill selling than in the case already examined where demand is uniformly spread over the whole region. Hence we may conclude that concentration of demand at the center of the market will increase the protection which the basing-point system affords to identical competitors against their own predatory instincts.

(2) Let us now consider the opposite extreme situation where there is no demand for the product at all in a region, in the center of the market, sufficiently wide for the selling territories of the two producers to be immune from each other's invasion if they were selling on an f.o.b. mill basis. Assume the two competitors to be identical and to sell on an f.o.b. mill basis within their respective territories which are assumed to be identical as regards demand. They will then act as monopolists, and each will charge the ideal monopoly mill price within his territory and there will be no competition. If, however, the basing-point system is introduced, each producer may make sales in his rival's territory, provided his marginal costs and the cost of transport are sufficiently low. The problem is precisely the same as that which we investigated when we compared monopoly with the basing-point system for identical producers. Profits will certainly be reduced by the introduction of the basing-point system and prices may be higher or lower for the reasons we have already examined. In fact, it may be profitable for each producer to lower his base price sufficiently to drive his rival

out of his end of the market entirely. Obviously, the basing-point system in these conditions is not a practice that the industry itself would wish to continue; and we may conclude that not only the extreme situation we have examined, but also a relative concentration of demand at the ends of the market furnishes no inducement for identical competitors to adopt the system.

(3) We shall here consider the simple case where demand exists only at A and at B, and let us assume that the monopoly profits at A are greater than those at B. Now, provided the ideal monopoly prices in their respective markets are maintained, the difference in profits may make it profitable for B to absorb freight in order to sell in A's market, notwithstanding that A might retaliate in like manner. In other words, the multiple basing-point system will be profitable for B and unprofitable for A. A would have no retort to B other than to reduce his price until it was less than B's marginal cost plus freight from A to B; in which case he would drive B out of his market entirely. The very existence of the basing-point system in the case assumed implies that it is more profitable for A to accept B's policy than to resist it. This is the simplest asymmetrical demand situation; more complicated situations could be formulated and analyzed and it will be found in general that, if demand conditions differ sufficiently as between A and B, it will be profitable for one producer to adopt the basing-point system regardless of the reactions of his rival.

4. *Producers Not Situated at Equal Distances from the Ends of the Market.* Assume that CA is greater than DB, that is, A has a larger hinterland than B, and that demand is again uniform over the whole market and the marginal costs of A and B are constant and equal. Let us now consider the f.o.b. equilibrium situation. The fact that A's hinterland is longer than B's, while the demand curve at every point is the same, will make his ideal mill price in respect to that hinterland lower than B's, on the principles developed in the f.o.b. paper. In the competitive region AB on the other hand, their marginal net revenues in respect of their mill prices will be the same. In general, therefore, A's marginal net revenue will be less than B's, and f.o.b. equilibrium will be reached with A charging a lower mill price than B, provided they both make the same competitive assumptions as to each other's behavior. Further, any rational revision of these assumptions will probably result in a greater rather than a smaller disparity of prices. Now if A's mill price is less than B's, and their marginal costs are equal, it follows that ST will be greater than SU, so that, provided the mill prices remain the same, B can invade A's territory without fear of an equivalent amount of retaliation by A. Although, according to the principles we have already developed, A may tend to raise his

price, which may tend to reduce B's advantage, the initial difference in base prices will not be entirely obliterated and B's gain may persist if the forces making for a difference in mill prices under the f.o.b. system are sufficiently strong. Hence, in this case, it may be to B's advantage and it will be to A's disadvantage to substitute the basing-point system for the f.o.b. system.

Conclusion as to Asymmetrical Cases. Examples could be multiplied of asymmetrical situations where it is to the advantage of one producer or group of producers to adopt the basing-point system, while the remainder of the suppliers has no profitable alternative but to accept the system. Where the competitors are identical it would be a simple matter to negotiate an agreement for the profitable abolition of the system, but in the asymmetrical cases such an agreement would be a much more complicated matter. It seems to me therefore that in this section we have found far more convincing explanations of the existence of the system than in the first section. This conclusion is reinforced by the overhead costs argument and the unused capacity argument that are invariably raised as partial explanations of the system. These have genuine significance in the asymmetrical cases, but no necessary validity where the competitors are identical.[19]

A very pertinent point has been raised by one critic of this paper: namely, why, if I am correct in attaching importance to asymmetries, do we not find one group of producers supporting the basing-point system and another opposing it; whereas in fact producers are usually united in its support. Consider the case where A and B are unequal groups of identical producers. If B is the smaller group, as we have seen, it would prefer to substitute f.o.b. mill selling for the basing-point system, provided it could rely on the whole of group A remaining at A. But this is precisely what B cannot assume. If the basing-point system is abolished, some of the producers at A will be forced to move to B and the position of those originally at A will be worsened. Thus both A and B support the basing-point system, A because it is more profitable to invade B's territory by the basing-point method than to incur the capital costs of moving to B, and B because it is more profitable to submit to A's invasion than to have A locate plants at B. And this joint support need not imply collusion.[20]

III

We turn finally to consider the question of the non-base mill; that is, a mill which does not set a base price where it is located, but calcu-

[19] *Cf.* Cement Case, Respondent's Brief, p. 342.

[20] Let me reëmphasize that nothing I have said is intended to imply that it may not be a desirable objective of policy to force such a relocation of the industry.

livered prices over the market AD. Let BK be B's constant marginal costs. Then KE, B's marginal costs plus freight, represents B's minimum delivered prices, so that he will make no sales to the left of T. (Of course BK may be sufficiently low for him to sell over the whole distance BA.) Then if B operates as a non-base mill, he will sell over the region TD at delivered prices as indicated by EG. We shall assume that he makes a given fraction of the sales at every point. If B establishes himself as a base mill, he will set a base price at B, say BN, and will sell on an f.o.b. mill basis over BD, and on an f.o.b.-mill-cum-freight-absorption basis over BT in the manner indicated by NR and RE. We shall assume, to begin with, that A's marginal costs are sufficiently low for him to meet B's delivered prices over the whole distance AD, and that B makes the same fraction of sales at every point, whether he is a base or a non-base mill.

If B's marginal costs are equal to BL, he has no alternative but to charge delivered prices indicated by LG, and he can make no profitable sales to his left. He may then regard himself either as a base or a non-base mill. It should be observed that he is here receiving no "phantom-freight" advantage or benefiting in any other way from A's presence. For if he were the sole occupant of the market, he would set a higher mill price than BL, and would sell both to his right and his left, and would make all the sales instead of a fraction of them. Even though B's marginal costs were less than BL, they may be sufficiently high for his optimum mill price to be greater than BL. Here again he would operate as a non-base mill.

In the cases in the last paragraph, B has been forced into a non-base position in the sense that if he were the sole occupant of the market, all his delivered prices would be greater than they are in the presence of A. We have now to inquire whether there are any circumstances under which B may seek shelter under A's "umbrella" rather than to be forced under it. First, suppose the optimum price for B at the point B is less than BL, and equal to BL′; then obviously B could increase his profits, as compared with his non-base position by establishing himself as a new basing point and setting a base price BL′. His optimum base price would, however, be less than BL′ since his object is to maximize profits over the whole region TD, and it would be profitable for him to charge a less-than-optimum price at B, in order to achieve optimum delivered prices in respect of all his sales. Secondly, suppose BL is equal to or less than B's optimum delivered price at B. From the point of view of sales to his right, it may nevertheless be profitable to B to charge a lower base price than BL in order to achieve optimum delivered prices over the whole region BD. From the point of view of sales to his left, however, the best approximation to an optimum

system of delivered prices B can achieve is that fixed by A, so that any attempt to establish himself as a new basing point with a base price less than BL will reduce his profits to his left. Now, if it is assumed that B is a finite distance from D, it will be possible for B to increase his profits to his right by more than he decreases them to his left by reducing his base price to some extent. But his optimum price will be greater than if he had only his sales to his right to consider.

Our conclusion[22] as to the non-base mill is therefore that its non-base position is at best a *pis aller*. B adopts such a position because he wants to charge higher delivered prices than those indicated by MG, but A's presence in the market prevents him from doing so. Once his marginal costs are sufficiently low he will establish a new basing point. The only situation in which A's schedule of delivered prices constitutes a protective "umbrella" for B is where there is competition between producers at B, and A saves them from themselves by coercing them into accepting his delivered prices. If, however, those producers were prepared to save themselves by acting as a single monopolist they would be hampered rather than assisted by A in working out their own salvation.

V

It has been shown in the foregoing sections that the basing-point system can be explained as a form of imperfect competition; and that given a suitable environment with respect to demand and cost conditions, the system may develop by each producer pursuing what he conceives to be his own self-interest. We have not proved that the system may not grow in any other way, but we have, I think, shown, conclusively, that if the producers concerned were prepared to negotiate an agreement they would certainly agree on something more rational and more profitable than the basing-point system. This of course does not mean to imply that agreements may not be made between producers in the basing-point industries; but the same may be said of any form of imperfect competition. The only type of agreement that the basing-point system is particularly likely to encourage is an agreement for its own abolition. It is of course true that equilibrium in imperfect competition implies to some extent a policy of live and let live; and we have seen that in some conditions this tendency may be stronger in the basing-point system than, say, under f.o.b. mill selling; but even this cannot be shown to be a general tendency. On the question of public policy as to whether the basing-point system should be abolished or retained, I can

[22] I regret that I found it necessary to be so prolix in the foregoing argument. Had there not been all this hypnotic talk of grisly phantoms lurking under umbrellas, I should have contented myself with pointing out that it is hardly likely that a restriction placed by A, acting in his own interest, upon B's action should benefit B.

only say that argument over the pricing methods involved will not answer the question in the absence of exhaustive empirical knowledge. On the one hand, the cross-haul is obviously non-economic but, on the other, consumers may benefit more, through lower costs, from the asymmetrical situations which the basing-point system permits than from the symmetry that a uniform f.o.b. mill rule would require. Which type of influence is predominant cannot be settled on *a priori* grounds.

If it were practicable or desirable to give the Federal Trade Commission powers unrestricted by legislative mandate, it could base its decisions on a consideration of all their economic implications. As it is, one can only hope that the lawmakers will eventually develop methods of defining standards of behavior in industries where imperfect competition is inevitable, and that meanwhile the Commission will use such discretion as is legally vested in it to consider on their merits such cases as do not fall unambiguously into the narrow categories of competition and monopoly now covered by the law.

Mathematical Appendix

In this Appendix the proofs of the main propositions of Section I as to the relation of basing-point prices to those under f.o.b. mill pricing and monopoly will be indicated. For the remaining sections of the paper I think the verbal argument is sufficient.

In Figure 1 let $AB = k$, $AS = d_1$, $SB = d_2$, $SU = h_1$, $ST = h_2$, $AM = p_1$, $BN = p_2$. Let the freight rate per unit of distance be unity and let the (constant) marginal costs for both competitors be zero. Let π_1 and π_2 denote the respective profits of A and B.

From Figure 1, and the argument of Section I, we can write for the profits of A

$$\pi_1 = \int_0^{d_1} p_1 f(p_1 + x)dx - \tfrac{1}{2}\int_{d_1-h_2}^{d_1} p_1 f(p_1 + x)dx + \tfrac{1}{2}\int_{d_1}^{d_1+h_1} [p_1 - 2(x - d_1)]f(p_1 + 2d_1 - x)dx \qquad (1)$$

where f( ) denotes the demand function at every point of the market. The expression for π_2 will be symmetric with (1). From Figure 1, the following relations can be established:

$$d_1 = \frac{k - p_1 + p_2}{2} \qquad (2)$$

$$h_1 = \frac{p_1}{2} \qquad (3)$$

with symmetric expressions for d_2 and h_2.

It will be seen that the first term of (1) will denote profits of A under f.o.b. mill selling which we shall denote by $\pi_{1\ \mathrm{f.o.b.}}$. Further, if $d_1 = \frac{k}{2}$, this term will represent the profits of a two-plant monopolist, π_{1m}, in respect of his plant situated at A.

We shall now examine the cases of quasi-coöperation and competition:

(a) *Quasi-coöperation.* Here A expects $p_1 = p_2 = p$ and consequently expects that $d_1 = \frac{k}{2}$ and it follows that $\pi_{1\ \mathrm{f.o.b.}} = \pi_{1m}$.

Making these assumptions, the necessary condition for A maximizing his revenue will be obtained by differentiating (1) with respect to p. Thus

$$(4)\quad \frac{d\pi_1}{dp} = \int_0^{k/2} (pf'(p + x) + f(p + x))dx - \left[\int_{1/2}^{(k+p)/2} \left(x - \frac{k}{2}\right) f'(p + 1 - x)dx - \frac{p}{4} f\left(\frac{p}{2} + \frac{k}{2}\right)\right] = 0$$

That is

$$\frac{d\pi_1}{dp} = \frac{d\pi_{1m}}{dp} - \left[\int_{1/2}^{(k+p)/2} \left(x - \frac{k}{2}\right) f'(p+1-x)dx - \frac{p}{4} f\left(\frac{p}{2} + \frac{k}{2}\right)\right] = 0$$

Differentiating the equation for π_2 will also yield this equation for p.

The quantity enclosed in the square brackets will be positive or negative depending on the effects of an increase in p on the costs of cross-hauling, which have been described in Section I. Now we have assumed

$$\frac{d^2\pi_1}{dp^2},\ \frac{d^2\pi_{1m}}{dp^2} < 0$$

Hence the equilibrium price under the basing-point system will be greater or less than that under f.o.b. selling or monopoly depending on whether the quantity within the square brackets is negative or positive.

If, however, each competitor can sell over the whole market, we shall have $h_1 = h_2 = \frac{k}{2}$ and the second term in the square brackets in (4) will not occur. Thus, since f′ is negative, this quantity will be negative and the basing-point equilibrium price will exceed the f.o.b. or monopoly price.

(b) *Competition.* Here A assumes p_1 and p_2 are independent. Differentiating (1) partially with respect to p_1, we have as a necessary condition for the maximization of π_1

$$\frac{\partial \pi_1}{\partial p_1} = \int_0^{d_1} (p_1 f'(p_1 + x) + f(p_1 + x))dx - \tfrac{1}{2}p_1 f(p_1 + d_1) \tag{5}$$
$$+ \tfrac{1}{4}p_1 f(p_1 + d_1 - h_2) - \tfrac{1}{2}\int_{d_1-h_2}^{d_1} f(p_1 + x)dx = 0$$

When π_2 is differentiated partially with respect to p_2, an equation that is symmetric with (5) is obtained. The equilibrium prices of the two competitors will be given by the simultaneous solutions of these equations, where the second order conditions for maxima are also fulfilled. Considerations of symmetry then suggest that in equilibrium we shall have $p_1 = p_2 = p$, and consequently $d_1 = d_2 = \frac{k}{2}$. In these conditions we have for (5)

$$\frac{\partial \pi_1}{\partial p} = \frac{\partial \pi_{1m}}{\partial p} - \tfrac{1}{2}pf\left(p + \frac{k}{2}\right) + \left[\tfrac{1}{4}f\left(\frac{\mathrm{D}+1}{2}\right) - \tfrac{1}{2}\int_{(k-p)/2}^{1/2} f(p+x)dx\right] \tag{6}$$

or

$$\frac{\partial \pi_1}{\partial p} = \frac{\partial \pi_{1\,\text{f.o.b.}}}{\partial p} + \left[\tfrac{1}{4}f\left(\frac{\mathrm{D}+1}{2}\right) - \tfrac{1}{2}\int_{(k-p)/2}^{1/2} f(p + x)dx\right] \tag{7}$$

Now the quantity within the square brackets in (6) and (7) may be shown to be positive and therefore in view of our assumptions that

$$\frac{\partial^2 \pi_1}{\partial p_1^2},\ \frac{\partial^2 \pi_{1\text{f.o.b.}}}{\partial p_1^2} < 0$$

over the range of our considerations, it follows that the equilibrium prices will be greater under the basic-point system than under f.o.b. mill pricing. In (6), however, the quantity within the square brackets may be greater or less than $\frac{1}{2}$ pf $(p + \frac{1}{2})$, whence it follows that the equilibrium prices under the basing-point system may be greater or less than those under two-plant monopoly, according to the conditions set forth in Section I.

If it is assumed that $h_1 = d_2$ and $h_2 = d_1$, we have instead of (6) for the equilibrium value of p_1

$$\frac{\partial \pi_1}{\partial p_1} = \frac{1}{2}\,\frac{d\pi_{1m}}{dp_1} = 0$$

so that the equilibrium prices under the basing-point system are identical with those under monopoly.

MONOPOLISTIC COMPETITION THEORY AND PUBLIC PRICE POLICY

By VERNON A. MUND

I

In monopolistic competition theory *duopoly* is usually defined as a case "where there are only two competing sellers" and *oligopoly* is treated as an extension of the case to "a few sellers."[1] A characteristic of these two situations is that there are "not so many [sellers] as to render negligible the contribution of each to the total supply." It is assumed as a condition in the problem that "there can be no actual, or tacit, agreement—that is all. Each is forced by the situation itself to take into account the policy of his rival in determining his own, and this cannot be construed as a 'tacit agreement' between the two."[2] A further assumption is that "if each seeks his maximum profit rationally and intelligently, he will realize that when there are only two or a few sellers his own move has a considerable effect upon his competitors, and that this makes it idle to suppose that they will accept without retaliation the losses he forces upon them." As a consequence, "No one will cut from the monopoly figure because he would force others to follow him, and thereby work his own undoing."[3]

In evaluating the assumptions underlying duopoly and oligopoly it should be observed that an essential feature of ordinary market competition is that traders have as complete a knowledge as possible of supplies, bids, offers, prices, etc. In the light of all the available information, traders are constantly readjusting their buying and selling valuations; each one is constantly forced to consider the action of his

EDITOR'S NOTE: The author is professor of economics at the University of Washington, Seattle.

[1] Edward Chamberlin, *The Theory of Monopolistic Competition* (1938), pp. 3, 8. The carefully prepared statement of monopolistic competition theory presented by Edward Chamberlin will be taken as typical of the usual treatment.

[2] *Ibid.*, pp. 30-31. It should be observed that "There *can be* no actual, or tacit, agreement," and "this *cannot be* construed" (italics mine), and similar expressions are not statements of fact but merely of the conditions assumed in the theory. These expressions may easily be misunderstood on a careless reading, as they seem to have been done by some making use of duopoly theory, to mean that the theoretic possibility that prices may be monopolistic without actual or tacit agreement between sellers is proof that there is and can be no agreement in such cases. Professor Chamberlin does not say that or anything approaching it, when read with due attention.

[3] *Ibid.*, pp. 48-49.

rivals, as well as his own reserve valuations at the going price. In this respect a typical competitive market does not differ from duopoly or oligopoly as pictured above. A significant difference, however, is that, although a competitive seller may take into account the action of a rival in determining his own action, in the final analysis he acts independently and makes a bid or offer in terms of his own judgment and estimate of the market forces and of his chance to make a profit or to avoid a loss. When an independent seller reduces his price, he may expect his rivals also to reduce theirs, if his estimate of market forces is correct. In initiating the lower price, however, a seller secures a temporary advantage in being able to make sales. The viewpoint of the independent producer is well expressed by the statement, "The best of us may be wrong, but of what use to be right if we cannot deal."

Oligopoly writers emphasize the fact that it is the fear of "retaliation" which restricts one in reducing his price when sellers are few.[4] The fear which restrains independents, however, is rarely the possibility that the dominant firm will reduce its prices uniformly. Rather it is the almost certain probability, not that the mill price will be reduced uniformly, but that delivered prices will be "cut" in particular local areas, or to particular customers, in a *discriminatory way*, expressly to injure the concern showing a price independence. Financially dominant concerns, operating in different trade areas, have the power to cut prices in one locality while maintaining them elsewhere, and it is the well-grounded fear of such a possible *discriminatory* "cut" in prices, rather than of a general reduction of the uniform price to all buyers, which is unquestionably the greatest deterrent to price reduction by independents.

There will be no dissent from the proposition that collusion is not only easier but also more tempting when the number of sellers is small. The real question is whether and how easily monopolistic prices can be arrived at and maintained without collusion and conference. The common testimony of business leaders who have endeavored to secure monopoly is the great difficulty of bringing and keeping rivals in line on price. This difficulty results largely from the different market positions of individual sellers. Some sellers are short of cash and cannot afford to accumulate inventory or to finance unused capacity; others are unwilling to speculate on the stocks which are likely to accumulate with higher prices. Further, every agreement implies some individual restraint, and as a rule sellers strongly resist giving up their independence of action.

The task of securing monopoly is, of course, much simplified when the interests to harmonize are few. When there are only two sellers, a

[4] See, for example, *ibid.*, pp. 48-49.

leader has only one price to worry about and only one other seller to convince; when there are three sellers, only two individuals have to be brought into line. It has long been a maxim in the public interest that every trade not given to public regulation should be in numerous hands, for when it is in few hands there invariably are rings, corners and combinations.

When rival sellers account for only a small percentage of the business, they may follow a large seller because of fear or because of the extra profits which a holding of the "umbrella" (price) by the dominant producer or producers enables them to secure. In general, an inconsequential seller cannot expect to secure a price higher than that quoted by the large seller in exactly the same market and from the same group of buyers, for the large seller is likely to be in a position to absorb more business at the going price. Similarly, the small seller cannot expect to change the going price, for he does not have the productive facilities to take business away from the larger rival. The studies of a long-time student of the copper industry indicate, for example, that the sales of secondary refined copper which account for 7 to 7½ per cent of the total output of domestic refineries have little, if any, effect on the market price of copper.[5] If a large seller is temporarily "sold up," or if the small seller cannot move his stocks, the small seller may sell at a price in the one case above, or in the other case below, the umbrella. This action, however, will not affect prices on the great bulk of transactions, for only a few customers can be satisfied.

When rival sellers are relatively small and inconsequential, it may be said that a dominating seller (or several acting as one) who controls such a large part of the supply that others are unable to threaten his position has a considerable degree of monopoly power. Usually in such cases, it is the dominant producer who assumes the burden of curtailing production, or of accumulating inventory, in order to secure a monopoly price. A necessary condition of a competitive market is the presence of sellers and buyers acting independently, with no one person so dominant as to be able to threaten or ignore the price independence of another. This situation may exist with only two (or a few) sellers and, in principle, is not dependent upon a large number of sellers.

When rival sellers are consequential, though few in number, they may choose to keep their independence, and produce and sell freely to secure a legitimate manufacturing profit. This state of mind may result from an inability to finance inventory accumulations or unused capacity, or from a desire to keep free from restraints and control by others.

[5] Percy Barbour, *Secondary Copper* (Mining and Metallurgical Society of America, 1931), pp. 75-81.

It is the production of independent sellers of significant size, having such an attitude, which often operates to bring monopoly schemes to grief.

When sellers are few in number, however, the frequently found desire to form rings and combinations is most easily effected. The power which brings, and holds, a few rivals together is simply the cohesive power of private plunder. It is difficult for self-interest to resist an opportunity presented by a ring leader to make extra profits.

How do a few sellers proceed when they decide to act as one? In the first place, in order that several sellers may act as one on price, some price formula must usually be devised to adjust the varying freight costs of scattered sellers to given destinations. It is obviously for this reason that basing-point and freight-allowed formulas come into being. The original establishment of such devices always requires discussion, understandings, and agreements among the coöperating sellers, but a subsequent generation of executives may inherit a pricing formula and regard it as a "custom." The experience often is, however, that deviations bring rebuke and admonition from other sellers, and that thereupon the old agreement becomes reappraised and renewed.

In the second place, regular price following requires that sellers forego their own individual price and production estimates and that they unite mutually upon a compromise position. Thus, the *Wall Street Journal* for November 29, 1930, in explaining the action of the large producers in raising the price of copper from 9½ cents to 12 cents stated: "There were differences of opinion among producers as to the wisdom of such a rapid advance. After argument those wanting a more orderly market acquiesced in advancing the foreign price and that automatically raised the domestic price."

It is easy to overestimate the rationality of a business man's psychology. Without an understanding on price, a seller cannot be sure of what another will do. Assuming strict rational behavior, identical output and trade interests, a demand that is highly inelastic, and few sellers with entry of others improbable, it is conceivable that each seller might hesitate to reduce his price for fear that his rivals would follow suit. Such assumptions, however, are highly unrealistic. Business men are typically individualistic, self-seeking, and distrustful of one another. Their judgments and market positions are different and their foresight is not perfect. With the existence of unused capacity or unsold stocks, moreover, the impulse to shade prices to stimulate sales is very strong, and the urgency for business varies sharply with different sellers. When one examines the restrictive sales policies, pricing formulas, Webb-Pomerene export associations, and other mutual devices which exist in industries where there is "unity of action on price,"

one realizes that market leaders do not usually rely upon rationality for their exercise of monopoly power.

In an industry such as a natural resource industry where entry is definitely restricted because of exclusive ownership of mineral deposits, and when sellers are few (say two), well financed and with similar interests, and when demand is highly inelastic, it is possible that the two sellers may pursue a common price policy without formal meeting and agreement. In such a case, the larger producer announces a price which the small producer in turn faithfully follows—so long as it appears to be in his interest. Since a producer cannot sell freely all of his regular output at a "pegged" price, a price following normally requires curtailment of production or inventory accumulation, and at times export dumping. A price leader and a follower must be prepared to pay this price for monopoly profits, and if the monopoly good is a by-product for one seller, a policy of high prices and limited sales may be quite expensive.

The mere matching of prices by a follower is not an expression of price competition, and preëminently not when the matching follows a mathematical formula resulting in varying mill-nets. Under competition each seller seeks to judge the market independently and helps in varying degrees to create the supply and to make the current price. In following a formula price, however, a seller tacitly concurs with it, regardless of his own sales, unused capacity, and inventory accumulation. As a result of such price following there is "unity of action on price," and the two sellers by their concerted action represent monopoly.

Although active competition may exist when sellers or buyers are few, it is, of course, more likely to occur when sellers are numerous. There is then a greater probability of securing in a market a number of alert, capable sellers who will not allow a competitor to sell greatly over an equilibrium price. Similarly, when there are numerous buyers, there is a greater chance of securing active bidding with no buyer being permitted to buy too cheaply. A large number of traders brings a greater diversity of interests and a wider range of judgments on the worth of the product, and these are factors which help to develop the potential value of the product in its various uses.

II

Let us now return to the question whether, when sellers are few, concerted action can occur without explicit or implicit collusion, agreement, or understanding. Chamberlin insists that agreement, actual or tacit, is not necessary.[6] The same view is taken by de Chazeau in his analysis of steel prices. He says: "Under conditions of oligopoly,

[6] Chamberlin, *op. cit.*, p. 31.

effective price leadership within or between basing-points need depend neither on tacit understandings nor on collusive agreement"; and again, "agreement is not a necessary condition of uniform pricing under oligopoly."[7] Although these authors apparently would admit that unity of action may be accompanied by agreement, tacit or actual, when sellers are few, their main contention is that collusion is not a *necessary* factor in uniform pricing.

The significance of such a thesis, of course, depends upon whether it means that collusion is always or only occasionally absent. Identical prices might occur without collusion so infrequently as to be without significance, while in actual, concrete situations collusion may be the usual condition for identity of price.

The persons applying duopoly theory, however, put the whole emphasis upon the distinctive doctrine of the purely automatic and uncollusive character of the greater part of monopolistic behavior. We are asked to believe that, generally speaking, monopolists first arrive at a meeting of minds without a single guilty word or gesture suggesting formal agreement; that no one formally or by innuendo tries by promises of rewards or threats of punishment to induce reluctant independents to join the group and to follow orders; and that there are no equally unmistakable threats and acts of discriminatory competition, causing loss and even ruin, to deter present and potential competitiors from enterprise and investment when prices and profits have been raised above normal rewards by the artificial restriction of supply. The net effect is to picture monopoly as so innocent and inevitable that it defies all human intervention, legal regulation, and moral condemnation. These ideas have been eagerly appropriated and employed of late before public tribunals by the apologists of monopoly as the allegedly "scientific" justification of current collusive practices in contemporary American business.[8]

[7] Carroll R. Daugherty, Melvin G. de Chazeau, and Samuel S. Stratton, *The Economics of the Iron and Steel Industry*, Vol. II, pp. 618, 631.

[8] In the testimony presented by counsel for the cement industry during the recent hearings of the Federal Trade Commission on its proceeding against the industry for use of the basing-point plan of delivered prices, the basing-point plan was characterized by economists from our leading universities as being a "description of competition" (pp. 45505, 44738); "without inference of collusion or conspiracy" (pp. 42975, 44619, 45485, 45822); "a competitive method of pricing" (p. 44646); "definitely favorable to the public interest" (p. 44811); "consistent with competition" (pp. 45485, 45842, 44246, 44619, 44106, 42982); a formula which springs "spontaneously out of the conditions of the industry" (pp. 45830, 42986). Record of Proceedings of the Federal Trade Commission against the Cement Institute, *et al.*, Docket 3167 (1940), at the pages cited in parentheses.

Other examples of the attempt to exploit the doctrine that monopolistic behavior is automatic and uncollusive in character are to be found in the United States Steel Corporation T.N.E.C. Papers, *The Basing Point Method* (1940), Vol. III, pp. 28 *ff.;* and in Daugherty, de Chazeau, and Stratton, *op. cit.*, Vol. II, pp. 618, 631, 728.

In actual market situations, it is possible that the independent rivalry of a few sellers may cease *momentarily* while each seller seeks to estimate market forces in terms of his current output and capacity. However, market forces are *fluid* and constantly changing and *someone* must judge the market in quoting a price. If this price is regularly and systematically followed by another seller or sellers, there is a concurrence (agreement) on price which may be either implied (tacit) or actually discussed. In many industries today "identical delivered prices" under the basing-point or the freight-allowed method of price quotation regularly follow a formula. This necessarily implies agreement, either voluntary or involuntary, induced through fear or favor; for, otherwise, each seller could not be expected to quote delivered prices identical with other sellers anywhere at all times.

Systematic price following by sellers of consequence involves mutual restraints on individual action which the sellers feel obliged to respect, as well as a harmonizing of individual views on the best market policy. The arrangements (restraints) which producers usually make include sales to consumers alone, sales at delivered prices only, prohibitions on resale, limited forward deliveries, output curtailment, etc. The formulation of, and systematic adherence to, these arbitrary policies necessarily involves discussion and understandings. Price understandings, tacit or discussed, are most clearly in evidence when sellers of consequence follow along, week in and week out, regardless of variations in their individual sales, inventory, or degree of utilized capacity.

In the light of the behavior patterns of individual sellers acting independently on price, it appears that the thesis that a policy of identical prices according to formula can be followed without collusion, agreement, or understanding is misconceived and unproved. Regular and systematic price identity of this sort over a period of time can exist only as the result of monopolistic agreement or of monopolistic coercion, actual or implied. It is doubtful whether actual cases of so-called duopoly or oligopoly can be found in which at one time or another there has not been some conscious collusion, coercion, or formal agreement.

III

The definition of *pure competition* typically given in monopolistic competition theory is "competition unalloyed with monopoly elements";[9] and the first condition essential for this concept is said to be the presence of a large number of buyers and sellers. "There must be a large number of buyers and sellers so that the influence of any one

[9] Chamberlin, *op. cit.,* p. 6.

or of several in combination is negligible. There is no need that their numbers be infinite . . . but they must be large enough so that, even though any single individual has, in fact, a slight influence upon the price, he does not exercise it because it is not worth his while."[10]

This concept is at once helpful and misleading. Competition is difficult to maintain when sellers are few. But all three of the terms, "influence upon the price," "negligible," and "exercise," are ambiguous. Their meaning varies as they are applied to competitive or to monopolistic situations. In the theory of competitive prices, the influence of each seller in the determination of the equilibrium price might be said to be "negligible" merely in the sense that his *purpose* is not to change this price, but is either to profit by selling at the going price or to escape a loss by declining further to sell and perhaps by shifting to a more advantageous position. However, the influence of no single seller on price is "negligible" in the sense that his action in no degree tends to modify or to maintain the going price, for every going price is the resultant of the choices made by all the exchangers in the market. This influence is not confined to the persons who at the moment are "marginal" as contrasted with "intra-marginal." The presence of all is necessary to account for the actual equilibrium.

The influence of a single market seller on price may be very considerable in many actual situations. Some units of supply offered by a seller at the fluctuating margin of price not only are the most sensitive to price changes, but also are at a certain moment the most influential in initiating price changes. A change in the equilibrium price results from a preponderance of demand or supply at the going price. In the mechanics of this change, some buyer or buyers having higher latent valuations raise their bids, or some seller or sellers having lower latent valuations lower their offers in order to be able to deal, and this action taken in the altered market situation brings about a new equilibrium price. Competitive sellers, however, do not exercise this sort of influence upon price intentionally and as they please; they exercise it automatically, unintentionally, and unavoidably with every independent decision they make to sell or not to sell in a certain market at the going price, for this decision in some degree tends either to maintain price or to alter the whole market situation in which a new equilibrium price is made necessary.

When it is said in the first assumed condition of pure competition that "even though any single individual has, in fact, a slight influence upon the price," the reference evidently is to that influence which is unconsciously and inevitably exercised by competitive sellers, in every choice they make to sell or not to sell at the going price. But the con-

[10] *Ibid.*, p. 7.

cluding clause, "he does not exercise it because it is not worth his while," implies a potential influence which is not inevitably exercised, and is not exercised at all except when it is profitable to restrict supply deliberately. The thought is confused between the unintentional influence of sellers upon price in a competitive market, and the purposeful limitation of supply by a monopolistic seller (or group of sellers) in order to raise prices and thus to maximize profits from the sale of the remainder.

IV

Another condition necessary to pure competition greatly emphasized in monopolistic competition theory is that "goods must be perfectly homogeneous, or standardized, for if the product of any one seller is slightly different from those of others, he has a degree of control over the price of his own variety."[11] In pursuing this thought, it is pointed out that in pure competition the sellers, too, must be "standardized." "Anything which makes buyers prefer one seller to another, be it personality, reputation, convenient location, or the tone of his shop, differentiates the thing purchased to that degree."[12]

This limitation of *pure competition* to cases where the goods are "perfectly homogeneous" is so stringent that almost all prices become in some degree monopolistic by mere definition, no matter how independently and eagerly the several owners are acting in selling the goods at the best prices they can get. Such a requirement excludes from the possibility of "pure" competition most, if not all, natural products, such as grains, fibers, minerals, and animals, as well as many semi-processed goods, such as hides, tallow, cheese, molasses, etc. There is always great variation in nature. It is said, for example, that no two sugar plantations will produce blackstrap molasses which is exactly the same in quality. In the South cotton classifiers recognize over twelve hundred different qualities of cotton. Only goods identical in pattern and quality, highly processed in terms of a common formula, meet the requirement of "perfect homogeneity,"[13] and no generally useful public policy of competition could ever be formulated in terms of such goods alone.

The requirement of similarity in goods requisite for a practical system of competitive pricing is met if the goods of the different sellers are usable in meeting the needs of a substantial group of buyers in a given market. In view of the variations in qualities of goods, it is

[11] *Loc. cit.*

[12] *Ibid.*, p. 8.

[13] An excellent analysis of this point is made by John Ise in the special problem of urban and agricultural rents, in "Monopoly Elements in Rent," *Am. Econ. Rev.*, Vol. XXX (March, 1940), pp. 44-45.

hardly conceivable that all units of a distinctive class of goods will be chosen with indifference by all buyers. Some buyers, for example, need cotton of a specific grade and staple, but there are others who can use the different grades interchangeably. As a result of this diversity of interest which usually exists in a market, quality differences find expression in price differentials.

The other aspect of homogeneity, that the sellers themselves must be "standardized," is also a hypothetic requirement. In view of the great variation in human personalities, it is almost certain that personality factors may become some basis for choice, either positive or negative. To recognize personal factors in business transactions, however, is not to deny the primary importance of the price nexus. The problem is well expressed by the old maxim, "There are no friends in the grain business for a quarter of a cent." The selection of a seller also can hardly be called a random matter, for under competitive conditions buyers are constantly shopping about in search of the lowest price. It is true that in an increasing number of cases there is no lowest price, for frequently monopoly is expressed in terms of identical prices and sellers are typically selected by drawings, the flip of a coin, and by the rapidly growing practice of reciprocity by which orders are granted to those concerns that reciprocate with an order.

V

Another concept in monopolistic competition theory is *perfect competition*. Perfect competition is defined as pure competition, plus "an absence of friction in the sense of an ideal fluidity or mobility of factors such that adjustments to changing conditions which actually involve time are accomplished instantaneously in theory. It may imply perfect knowledge of the future and the consequent absence of uncertainty. It may involve such further 'perfection' as the particular theorist finds convenient and useful to his problem."[14]

The basic phrases in the definition of perfect competition, such as "ideal fluidity," "perfect knowledge," etc., are not characteristics of the market place; nor are they characteristics of the actual making, converting, and processing of goods. Rather they are statements of conditions which may be assumed by a given theorist. From the days of Josiah Tucker and Adam Smith, those concerned with making competition more effective have spoken simply of "rivalry," "rivalship," "competition," "free competition," "competition without restraint," and "effective competition." Alfred Marshall cautioned his readers that "it may be well to insist again that we do not assume that competition is perfect."[15] The concepts of "pure" and "perfect" competi-

[14] Chamberlin, *op. cit.*, p. 6.

[15] Alfred Marshall, *Principles of Economics*, 8th ed., p. 540.

tion appear to have been devised by certain mathematical economists in building the distinctive doctrines of monopolistic competition. Although such concepts may be useful in theoretical discussion, their assumptions are greatly out of accord with the realities in economic processes; and serious error must necessarily result when they are used in formulating and appraising public price policy.

VI

In monopolistic competition theory, *monopoly* is defined as "control over supply."[16] It is sometimes stated, although sometimes only implied, that monopoly means a control over supply exercised by one seller. In accounting for monopoly, attention is centered primarily on the differentiation which may characterize a seller or a good. According to Chamberlin "with differentiation appears monopoly, and as it proceeds further, the element of monopoly becomes greater. Where there is any degree of differentiation whatever, each seller has an absolute monopoly of his own product, but is subject to the competition of more or less imperfect substitutes."[17]

In defining monopoly as control over supply, and in considering supply to be an amount, or source, of goods differentiated from others, the monopolistic competition theorists have confused the problem of monopoly with that of scarcity.[18] In a literal sense, it would be right to state that there can be monopoly in which the scarcity is natural, if the scarcity is under a single control. A single ownership of a differentiated good or multiple units thereof, however, does not mean that the seller will thereby be able to secure a monopoly profit. The control must extend to such a large part of the multiple units of a species of market goods that the seller can manage price and make more by selling fewer units. In an economic sense, monopoly arises only when the single control makes possible an artificial enhancement of scarcity. The essence of monopoly is the power to manage price to make more profit by selling less. The distinguishing feature of monopoly is not scarcity, as such, but rather an artificial scarcity which is a concomitant of price control. It is the manifold ways and means of artificially enhancing natural scarcity that constitutes the monopoly problem to be solved by social control.

According to monopolistic competition theory, each seller with a store site of different quality or location has a monopoly. But it is hardly ever true that any two store sites are of equal value; they usually

[16] Chamberlin, *op. cit.*, pp. 7, 65.

[17] *Ibid.*, p. 9.

[18] This confusion is found in the work of John Stuart Mill. Mill states: "A thing which is limited in quantity, even though its possessors do not act in concert, is still a monopolized article." *Principles of Political Economy* (Ashley ed., 1848), p. 448.

grade off in quality in a variety of ways. The fact, for example, that your plot of land is of a different quality from mine does not mean that either one of us has a monopoly. The problem is simply one of the value of different grades of scarce land.[19] As long as there is no concerted action among the various owners to withhold land and leave it vacant, there is no monopoly.

In the sale of goods covered by patents, copyrights, and trade-marks, price management and supply restriction typically prevail. Such goods are usually produced in no greater amounts than can be sold at a previously named price, so the fact of a curtailment in supply may not always be apparent. The frequent breaking down of price maintenance schedules by retail dealers, however, in an effort to secure larger sales, bears witness to the curtailment involved. A comprehensive system of compulsory grading, along with improved consumer education, would do much to force sellers of branded merchandise to give way in their policy of high prices and limited output.[20] With compulsory grading, moreover, sellers are not able to divert at lower prices excess supplies which cannot be sold at the managed price.

When prices are managed and fixed at a given level, an increasing demand at the fixed price often results in capacity production, and at times in a taxing of facilities to their utmost, with a postponement of deliveries and a rationing of supplies. Such a situation is really a case of "inverse" monopoly; for, with competition, the price would rise to equate demand with supply. Under monopoly conditions, however, such factors as the difficulty in deciding upon a new price, or a more far-sighted policy of forestalling the entry of new producers, sometimes causes sellers to keep rigidly to a given price lower than could be obtained competitively. It is when demand decreases and the managed price is maintained that the characteristic of artificial scarcity reveals itself.

The definition of monopoly in monopolistic competition theory not only involves a confusion of the concept with that of scarcity, but also a failure to emphasize the prevalent fact that several, or many, sellers may act as one. From an economic standpoint the presence of monopoly is to be found not in the number of persons controlling the supply, but rather in the market situation which faces buyers. If the market supply is in large measure "controlled" either by one seller or by a group which acts more or less as one on price, there is present an element of monopoly. The essence of monopoly is the power to effect an artificial

[19] See also Ise, *Am. Econ. Rev.*, Vol. XXX, pp. 44-45.

[20] In Canada the grading and labeling of canned goods has resulted in bringing prices in line with quality, and the same result is taking place in the United States.

enhancement of scarcity, a particular scarcity which in all but the rarest cases is produced by collective action involving some sort of agreement. Monopoly is typically the result of a meeting of the minds of sellers on price and has to do with human contracts and agreements, rather than with scarcity from impersonal causes.

Thus, the definition of monoply proposed by the monopolistic competition theorists not only involves illogical assumptions, but also is out of accord with established usage. The concept appears, therefore, to be one which is inappropriate to use in formulating a workable policy of price regulation.

VII

Thus far we have been examining the concepts of monopolistic competition in terms of concrete economic processes, as well as in terms of the thought on monopoly which has gone before. The principal significance of monopolistic competition theory arises from current applications of the technique of the theory to particular sets of facts, and to an appraisal and formulation of public price policy.

Although it is recognized in monopolistic competition theory that "perfect" competition is unreal and impossible of attainment, persons trying to apply the technique of the theory charge that this is the goal expected and sought by those concerned with making competition more effective in our present economic order. Thus Mr. de Chazeau states that perfect competition is impossible and then charges defenders of antitrust law policy with foolishly trying to bring it about. In analyzing the work of Professor Fetter on the basing-point system, de Chazeau says: "The conviction is that competition will effect prices more nearly in accordance with mill costs and that under *perfect competition* the mill-net price for steel of a given kind would be identical irrespective of the location of buyers. But the truth of the underlying assumption—that *perfect competition* is practicable in the steel industry—is not questioned."[21]

Similarly, in the recent study of the iron and steel industry financed by the United States Steel Corporation and supervised by Theodore O. Yntema, it is stated, "The criticisms of the basing point practice in the steel industry *all* stem from the proposition that it results in deviations from 'perfect competition,' and the proposed alternative, the

[21] Daugherty, de Chazeau, and Stratton, *op. cit.*, Vol. I, p. 552. Other examples of this same misrepresentation are found on pp. 550, 551, 572, 1105. Italics mine.

The concept of "perfect competition" used by de Chazeau appears to be the same as that presented by Chamberlin. According to de Chazeau, " 'perfect' competition is seen to be highly abstract, requiring the absence of all elements of friction, immobility, and any undiscounted future changes." *Ibid.*, Vol. I, p. 549.

uniform f.o.b. mill price system, is put forward as a supposed means of realizing 'perfect competition.' "[22]

A further example of this misuse of economic concepts may be found in the economic testimony presented by counsel for the Cement Institute, *et al.*, during the recent hearings of the Federal Trade Commission on its complaint against the use of the basing-point plan in the cement industry. In replying to the complaint, the counsel for the cement industry developed through the testimony of economists secured from leading universities the thesis that the concept of competition of "the Classical economists," the "older economists," and the "critics of the basing-point plan" is a "preconceived," "impossible," "unreal" type of competition which present-day economists would call "perfect competition."[23]

It appears that the persons applying the concepts of monopolistic competition theory are here reading their special concepts on competition into the views of those who are interested in making competition more effective. They apparently fail to realize that monopolistic competition theory is based on changed definitions which are substantially different from those long held by economists. In terms of their changed definitions, the monopolistic competition theorists find an enormous increase in monopoly.[24] It was with the tools of monopolistic competition theory that Mr. de Chazeau analyzed the iron and steel industry and reached his principal conclusion that the industry was one of oligopoly in which price competition could not be expected.[25] If those persons trying to use the technique of monopolistic competition theory had approached their studies with realistic or workable concepts of

[22] United States Steel Corporation T.N.E.C. Papers, *The Basing Point Method* (1940), Vol. III, pp. 21-22. Italics mine. For additional statements that "perfect competition" is the desired norm of those seeking to restore competition, see pp. 35, 73, 80, and 84. According to the United States Steel Corporation's study, perfect competition requires "(1) that the commodity dealt in be strictly uniform; (2) that there be so many sellers independently offering the commodity for sale, and so many buyers independently bidding for the commodity, that no one seller or buyer could influence the price level in the market; (3) that sellers and buyers would know all or at least many of the bids and offers; (4) that all sellers and buyers would be free to enter or retire from the market; and (5) that as a consequence of the preceding conditions, price would be the only possible inducement for any buyer or seller to consummate a sale." *Ibid.*, p. 21. This definition of "perfect" competition appears to be similar to Chamberlin's concept of "pure" competition. See above, p. 1.

[23] Record of Proceedings of the Federal Trade Commission against the Cement Institute, *et al.*, Docket 3167 (1940), especially pp. 42948, 42949, 43297, and 45474.

[24] Thomas J. Anderson, Jr., in a note on "The Rise of Monopoly," *Am. Econ. Rev.*, Vol. XXX (March, 1940), p. 120, significantly observes that "imperfect or monopolistic competition theorists of today would discover much less monopoly in the modern economy than they do if they followed the less refined usage of the terms 'commodity' and 'market' adhered to by the economists of the Classical school."

[25] Daugherty, de Chazeau, and Stratton, *op. cit.*, Vol. I, pp. 557-558; and Vol. II, p. 1118.

competition and monopoly, their conclusions most likely would have been strikingly different.

In applying the concepts of monopolistic competition to antitrust law policy, the foregoing persons also read the view of perfect competition into the type of competition which is required by the antitrust laws. Since these persons find that even pure competition exists almost nowhere, they see and consider efforts to enforce our antitrust laws in the industries studied "doomed to futility."[26] Such an incorrect, defeatist view, widely and popularly publicized,[27] is being designedly used in the defense of monopolistic practices and apparently to prepare the way for a further weakening or a complete cessation of antitrust law enforcement.

VIII

In working toward a concept of "workable competition" in public policy, it may be observed that competitive activities of business men express themselves in many ways, including rivalry in price, quality, sales activity, advertising, "free" services, gifts, etc. History indicates that, for purposes of public policy, to insure that the fruits of technical progress shall inure to the public in the form of more and better goods at lower prices, the most essential type of competition is *price competition.* With this assured, quality and service competition naturally follow and find expression in price differentials.

When there is no legal restraint on a seller's activity in offering goods of a given category, and no private agreement or coercion, actual or implied, among the sellers, there is possible the kind of "workable" competition (never "perfect") called for by the antitrust laws. All experience shows, however, that these basic conditions necessary for a workable price competition never can be maintained without a continuing governmental policing of price practices to insure that they are open, fair, and free from discrimination.

In a very broad sense competition of some sort is universal and everywhere. Every seller in a degree is competing with every other seller of goods and services for the buyer's money. The universal substitution of goods that is constantly going on occurs at the margin of choice and is governed by relative prices and marginal valuations. The competition afforded by substitutes, however, would perhaps be better described as *substitute competition;* the phrase monopolistic competition is a contradiction in terms. The fact that a given product touches in some directions the competition of a substitute does not mean that there is

[26] See, for instance, *ibid.*, Vol. I, p. 548; and Vol. II, p. 1146.

[27] For example, the publication *Steel—Problems of a Great Industry,* Public Affairs Pamph., No. 15, 1937, pp. 8-14.

no monopoly within that industry, and that government may forego an enforcement of the antitrust laws.

The concept of monopoly which is the basis for social policy is a unity of action among sellers as to price, this unity adding a measure of artificial scarcity to whatever scarcity derives from other sources. Monopoly in this sense involves the absence of independent price competition. It exists when a single seller of a distinctive category of goods, or a sufficient number of sellers acting as one on price, is able to establish or make the going price, or prices, that as an actual fact will be largely observed in the industry. When there is no rivalry *on price,* there is monopoly in defiance of the law even though a dozen salesmen are wastefully "competing" in the field for orders.[28] A buying monopoly, on the other hand, exists when a buyer, or a group acting as one, has the power to lower the market price and yet hold sufficient sellers so that a net profit is made by the lowering of price. The various methods of securing monopoly are manifold and vary from industry to industry, as well as over periods of time.

Monopoly prices may be uniform mill-net prices, but usually they are discriminatory because price discrimination nearly always makes possible a larger revenue. It is a generally accepted principle, clearly conceived first in the theory of "dumping" in foreign commerce, that *systematic* price discrimination can occur only with monopoly.[29] Systematic discriminatory pricing is not the kind of price competition found in a true market, but is rather a formula method of quoting prices which enables sellers to act as one.

The competitive impulse in sellers is hard to restrain and a scheme of artificial pricing very often simply forces competition underground. Just as the American experiment of prohibition resulted in bootlegging, so likewise the modern business practice of collusive price agreements has forced rivalry on price, so far as it still survives, to take the form of secret discrimination in favor of certain buyers.

IX

In summary, it may be said that any careful examination of recent monopolistic competition, duopoly, and oligopoly theories reveals how

[28] The much emphasized "quality" and "service" competition rendered by sellers acting as one on price cannot be identified with *price* competition as many economists have done. See Federal Trade Commission, *op. cit.,* pp. 42958, 42998, 44393, 44733, 44738, 45494, 45650, and 46128. Free postcards, air, water and other services do not enable motorists to buy more gasoline. It is with price competition that the fruits of technological progress inure to the public in the form of more and better goods at lower prices.

[29] For a discussion of the principle that "there can be no discrimination without some monopoly," see A. T. Hadley, *Transportation,* pp. 101, 108; Frank Taussig, *Some Aspects of the Tariff Question,* p. 208; Jacob Viner, *Dumping,* pp. 1-3, 94-95; Frank A. Fetter, *Masquerade of Monopoly,* pp. 300, 411, 417; and Vernon A. Mund, "Prices under Competition and Monopoly," *Quart. Jour. of Econ.,* Vol. XLIX (1934), pp. 288-303.

greatly the assumptions are out of accord with the realities in economic processes, and how essentially the definition of the terms differs from that hitherto understood in the discussion of antitrust law policy. Therefore, most serious error results when this disparity is overlooked. The terms serve rather to confuse than to clarify thought regarding the competition required by the antitrust laws.

The purpose of the present essay is not to condemn the abstract theory of monopolistic competition, as such; it is rather to oppose the unjustifiable use which has been made of it. In the problem at hand, there is a need for clearly distinguishing between an abstract theory which may have a certain validity under conceivable conditions, and, on the other hand, the application of a theory assuming such a highly improbable or rarely occurring set of conditions in the formulation and appraisement of a workable policy of price regulation.

It may be alleged by some that no formal pattern of theory can be directly applied to aid in answering questions of public policy. In holding such a view, however, one is denying the maxim that the experience of the past is worth remembering. Whether one reads Zeno's Code, the writings of Jean Bodin and Adam Smith, or studies the actual way in which modern mergers, pricing formulas, holding companies, and restrictive sales policies originated and developed, one finds that monopoly arises out of human action and human volition, rather than from technological, impersonal forces.

The exchange of goods is a phase of human conduct and requires rules as do other forms of conduct. In applying the theory of competition to the fields of manufacturing and merchandising one simply calls for competition of a non-discriminatory type, open and aboveboard. The disappearance of this type of conduct was a result of human volition and its restoration awaits the public will. It is irrelevant that the result would not correspond to any picture of "perfect competition."

PRICE CONTROL IN OUTLINE[1]

By Don D. Humphrey

When Germany invaded Poland, the gross national product of the United States was running at an annual rate of 86 billion dollars, and most manufacturing industries were operating at less than 75 per cent of capacity. Industrial production and wholesale prices stood at 107 and 93, respectively, on a 1935-39 base. Three years later, in August 1942, gross national product was 167 billion dollars (annual rate), industrial production was up 74 per cent, and all wholesale prices except farm products and foods had risen 19 per cent. Farm prices, on the other hand, had risen 85 per cent, while an important fraction of the 18 per cent increase in agricultural production must be credited to favorable weather.

Except for imports and strategic war materials, the impact of the war at the outset was largely speculative. Spot prices of 28 basic commodities and of critical materials jumped 25 per cent in September 1939. But the cost of living was almost unchanged at the year's end, and nine months after the attack on Poland the entire price structure had softened and production was drifting back toward pre-war levels.

Following the swift conquest of France and the expulsion of the British army from the continent, this country launched a 12-billion-dollar defense program. The Advisory Commission appointed to direct the program included a Division of Price Stabilization. In the field of direct price control, the job was mainly to restrict speculation. The conference (or "jaw bone") method of price control was successful in the case of copper, steel, and many other metals but was less successful in the case of lumber.

From the middle of 1940 until the spring of 1941, total industrial production increased 25 per cent while durable goods production increased 43 per cent. Wholesale prices rose only 3 per cent. The spring of 1941 marked a turning point on the price front. Congress provided

Editor's Note: The views expressed are not necessarily those of the Office of Price Administration but are the personal views of the author who is chief of the Price Analysis and Review Branch, Research Division, O.P.A.

[1] Space limitations have not permitted the inclusion of several statistical tables and charts that should accompany these remarks. Some of these are available in the Price Control Reports of the O.P.A. The First and Second Quarterly Reports to the Congress also contain a more complete account of the development of price control.

support prices for basic agricultural products, the Lease-Lend act was signed, and defense spending was taking hold.

Selective Price Control

Discussion of the appropriate price-control policy at this time was almost unanimously in favor of selective control. The policy of imposing control at each spot where inflationary pressure developed recommended itself for several broad reasons. First, the appropriate means for the control of general inflation is fiscal policy. If the aggregate demand is held to levels that roughly match the supply, direct control of prices is needed only in local bottleneck areas. There was considerable slack in the economy and inflationary pressure was spotty. The uneven character of the expansion in this period is indicated by the 600 per cent increase in the output of aircraft compared with the 3 per cent increase in flour. Also, time was required to build a staff and gain experience. To freeze prices across the board would have thrown an unmanageable relief problem into the lap of an embryonic organization.

Type of Action and Pattern of Control. Price actions during the period of selective control can be roughly classified into five major types. First, and most informal, were "Suggestions and Warnings" which put the members of an industry on notice that stabilization of their prices was expected and which usually carried the implication that more formal action would follow if necessary. A second informal type involved issuance of a "Fair Price List" to which the industry was requested to conform. A third type was the "Freeze Letter" addressed to the members of an industry, requesting that prices be held at levels which prevailed during a specific period. In a fourth type, the "Voluntary Agreement," the Office obtained an explicit agreement from individual producers relating to prices, margins, or the conditions of trade. Finally, formal price schedules were issued under Executive authority. When, after six months' debate, the Price Control act was finally enacted on January 30, 1942, 98 of the 105 schedules then in effect were reissued on a statutory basis.

Selective price control grew directly out of the defense program. The most serious pressures developed in metals and metal products. Of the 20 price ceilings issued during the first five months, about three-fifths by number and seven-eighths by value were in the field of metals. Equipping and housing a new army brought inflationary developments in lumber and textiles and, by the fall of 1941, several schedules were issued in these fields.

These early price actions acquired further controls to supplement and support them. Initially, it was possible to stabilize the prices of

virgin copper, zinc, and aluminum by informal agreements with the producers, but as shortages became more acute the prices of scrap and secondary metals rose above virgin metal prices. Consequently, ceilings were placed on most of the secondary scrap and waste materials.

Of the criteria established for the determination of maximum prices, possibly the two following are the most important: (1) The over-all profits position of the industry, rather than profits on individual products, is the relevant consideration as long as the price covers direct costs. Each industry is expected to absorb rising costs within the limits of reasonable over-all profits. Thus, iron and steel ceilings were maintained in face of a 10 per cent increase in wages. (2) The price need not cover marginal costs. The premium-price principle was adopted instead of the bulk-line-price principle of World War I. The outstanding application of this principle is the payment of premium prices for production of nonferrous metals above designated quotas based on 1941 output.

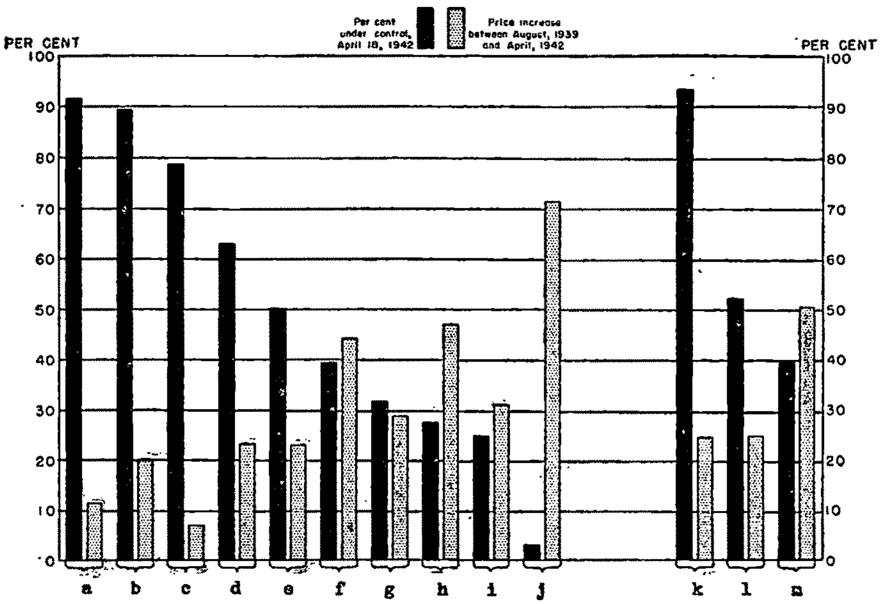
The fraction of the economy subject to control at the manufacturing and wholesale level was extended from one-fifth in the middle of 1941 to two-fifths by the end of the year. During the early months of 1942, informal price actions were replaced by formal schedules to an appreciable extent. The type of industry brought under control shifted with the spread of the inflationary pressure.

In the pre-Pearl Harbor period, price control was concerned almost exclusively with the basic materials of industry. Consumers' goods remained untouched with minor exceptions. During the period from January 1, 1942, to the General Regulation in May, the regulation of industrial products was extended. But the O.P.A. could no longer postpone coping with consumers' goods and they appeared in the controlled list with increasing frequency. Two-thirds of the thirty-odd regulations effective after March 1 involved consumer goods. This was a consequence of the fact that consumer purchasing power was rising rapidly while war production began cutting into civilian supplies.

Evaluation of Selective Controls. By value, roughly two-thirds of the schedules controlled prices at the manufacturing level, one-fifth controlled raw materials, and the remainder controlled semi-manufactured goods. Formal price ceilings were extremely successful in holding prices, once they were imposed. Informal measures were effective in many cases and not in others. Despite the fact that controls were imposed where inflationary pressure was strongest, flagrant violations were confined to scrap materials and waste products.

Selective price control has an indirect as well as a direct effect. Control of steel and copper prices, for example, exerted various degrees

of influence upon the prices of both finished products and raw materials. There is both a forward and a backward influence from the point of control. The latter, doubtless, is much the stronger. But as pressures grew, these indirect "effects" did not suffice. The stabilization of iron, steel, copper, and zinc prices did not, in the face of rising demand, stabilize the prices of automobiles and farm machinery. In



a = Metals and metal products
b = House furnishing goods
c = Fuel and lighting materials
d = Miscellaneous
e = Lumber and building materials
f = Textile products
g = Hides and leather products
h = Foods
i = Chemicals and allied products
j = Farm products
k = Semi-manufactures
l = Manufactures
m = Raw materials

Source: U. S. Bureau of Labor Statistics and Office of Price Administration

The Relationship between Price Increases and the Extent of Control: Ten Major Industry Groups and Three Principal Stages of Production

order to protect the ceiling placed on iron and steel in April 1941, it became necessary to control the price of pig iron in June, coke in October, and iron ore in April 1942. Schedule No. 7, Combed Cotton Yarn, led producers to shift to uncontrolled carded yarns which, in turn, had to be controlled.

Price control at the raw materials or processors' level is only a delaying action. The control of hides and skins in June 1941 postponed

but did not avoid the necessity for controlling the price of leather; the eventual control of leather in December postponed but did not avoid the need to stabilize shoe prices which were covered by the General Maximum Price Regulation in May 1942.

There is, of course, no reason to expect that control of the price-determining prices will stabilize the entire price structure when income payments are accelerating. In a forward direction, the control of key prices affects the supply side through stabilization of costs. On the demand side, the rise in income that is associated with rising prices may be checked. On the other hand, there may be some increase in demand for uncontrolled commodities because of spill-over from the controlled area. The strongest indirect effect is probably in a backward direction, where it operates on the demand side to reduce the maximum bids for raw materials. But even here strong producers will outbid their less efficient competitors and raise prices, unless supplies are allocated.

In the first year of selective price control ending March 1942, two-thirds of all industrial goods were controlled. All wholesale prices other than farm products and foods increased 11 per cent.

The figure on the preceding page shows a remarkable inverse correlation between the extent of price control and the magnitude of the price rise. Although the grouping of commodities is the familiar Bureau of Labor Statistics classification, the case may seem prejudiced in favor of price control. The prices on the left are characteristically less sensitive to changes in demand than those on the right. Nevertheless, war is the one time when this characteristic difference between the behavior of depression sensitive and insensitive prices breaks down unless prices are controlled.[2]

The General Maximum Price Regulation

The most extensive step in the history of price control in this nation was the GMPR, effective in May 1942. This regulation applied to all levels—manufacturing, wholesale, and retail—and covered every commodity, both domestic and imported, not covered by a separate regulation or specifically excluded. Control was extended to about 60 per cent of the food budget, to most other retail sales, and to more than three-fourths of manufacturing and wholesale trade. The commodities excluded were (1) those excluded by the Price Control act itself, such as books and newspapers; (2) some primary raw materials, such as logs and mineral ores whose prices were indirectly controlled by ceilings at later stages of production; (3) commodities with no organized markets,

[2] See the diagrams in the writer's note, "Rigid Prices, 1890-1933," *Jour. of Pol. Econ.*, Vol. XLV (Oct., 1937), pp. 651-61.

such as fresh fish and objects of art; (4) and, most important, farm and food products that had not reached the limitations of Section 3 (a) of the act.[3]

In view of the overwhelming opinion in favor of selective price control at the time of its adoption, an explanation of the shift to a general ceiling is called for. The answer is that Pearl Harbor completely changed the magnitudes. A defense program was converted into a war program. Given sufficiently flexible fiscal powers, selective price control remains the logical solution to bottleneck inflation. But there is no real likelihood of the severe use of the fiscal weapon that is required to prosecute a modern war. In fact, if the morale factor is taken into account, it is open to question whether or not the over-all prosecution of the war would benefit from the unlimited use of the fiscal powers.

Subsidiary factors affecting the decision were (1) the necessity for moving into the control of retail prices which is far more difficult to handle on a piecemeal basis than is control at the manufacturing level; (2) the fact that a more adequate staff was available; (3) a frank recognition of the tendency for prices to edge upward through personal pressures involved in the wide dispersion of administrative authority.

By the spring of 1942, the facts were compelling. Inflationary pressures spread throughout the economy so that all components of the wholesale price index were turning sharply upward with the exception of metals, which was 90 per cent controlled. Not only was the price rise spreading, it was accelerating as well. Raw material prices rose 4½ times as fast during the year beginning February 1941 as during the first year of the war. Prices of manufactured products rose 7 times as fast, clothing 3½ times as fast, and household furnishings twice as fast.

Perhaps the principal factor limiting the effectiveness of selective price control was the rapid acceleration in income payments. Even though cost increases were restrained appreciably by the control of key-commodity prices, the acceleration in demand continued. In the early months of the war, income payments increased at an average rate of one-half of one per cent a month. This rate doubled from April to November 1940, and tripled and quadrupled thereafter. The slack in the economy which had absorbed so much of the initial impact of the war program was disappearing. The nation faced a further acceleration of war expenditures, on the one hand, and a savage cut in civilian supplies, on the other.

[3] The act very carefully protected not only primary farm products but Section 3 (c) provides: "No maximum price shall be established or maintained for any commodity processed or manufactured in whole or substantial part from any agricultural commodity below a price which will reflect to producers of such agricultural commodity a price for such agricultural commodity equal to the highest price therefor specified in subsection (a)."

The decision to control retail prices offered a basic choice between margin control and the freezing of prices as of some base date. The latter was adopted because it appeared to offer more effective control. But the freeze technique raises at least four difficult problems. First, there are many cases of hardship where the prices of individual sellers during the base period were out of line with their competitors. Second, there are unstandardized and seasonal commodities not produced and sold in the base period. Third, there is danger of irrational geographical differences in base period prices which, if frozen, will starve some areas. Fourth, there is the problem of disparities in both the horizontal and the vertical price structure.

Horizontal Price Balance. A few years ago, Gardiner Means attracted considerable attention with his analysis of "administration dominated" and "market dominated" prices. The core of his analysis was a chart which arranged wholesale prices in five groups on the basis of frequency of price change. A high degree of correlation was shown between frequency and magnitude of change. It is unmistakably clear that the price structure is drastically altered by depression conditions and that a characteristic dispersion occurs among the commodity groups classified according to depression sensitivity. Declining production and employment in the great depression, and again in 1938, were directly associated with a drastic widening of the spread between those prices that are sensitive and those that are insensitive to changing levels of demand. Contrariwise, the improvement in economic conditions culminating in the spring of 1937, and again during the war, has led to a closing of the gap among the five classes of prices grouped according to depression sensitivity. It is of interest, therefore, that the dispersion was almost entirely eliminated and that prices had regained the balance as well as the level of pre-depression days by March 1942. On a 1926-29 base, the A, B, C, D, and E groups in March 1942 were 100, 100, 100, 108, and 96, respectively.[4]

While it is true that, in detail, the requirements of a war economy are markedly different from those in a peacetime boom (that is, guns are needed instead of automobiles), it is true also that, broadly speaking, war requirements are similar to those of a peacetime boom. Both are periods of heavy capital building and require large supplies of metals, chemicals, and other raw materials.

Vertical Price Balance. Retail prices during a period of rising prices are not fully adjusted to current replacement costs, but are, to some extent, based on the wholesale and manufacturing price of some earlier period when stocks were purchased. The magnitude of the retail lag

[4] These indices are discussed in *The Structure of the American Economy,* National Resources Committee, June, 1939, p. 389.

depends upon the extent to which retail prices are based on inventory costs rather than replacement costs.

In order to find out if the squeeze on retailers was of manageable proportions, two independent estimates were made of the maximum potential squeeze. The first method compared the rise in wholesale prices with the corresponding rise of retail prices of comparable items. The second method compared current wholesale prices with wholesale prices at some earlier date determined by the price lag. The lag was derived from the turnover period.

Between June 1939, and March 1942, the special wholesale price index[5] rose 30.5 per cent while corresponding retail prices rose 26.6 per cent. In order for retailers to enjoy the same percentage increase in price as wholesalers, it would have been necessary to roll back the wholesale price level 3.9 points, or 3 per cent. The estimated wholesale cost of retail sales[6] amounted to 22.39 billion dollars, 3 per cent of which is 672 millions. The real potential squeeze would be considerably less than this maximum because retail prices would not need to rise as much as wholesale prices in order to maintain margins. Furthermore, all the historical evidence indicates that retail prices do not move as much as wholesale prices.

The alternative method was to determine the average lag by type of retail outlet. If retail prices were based on average inventory costs, the average lag would be approximately one-half the average period of stock turnover. Thus, if the number of stock turns for a year in a particular type of retail outlet is three, the average period of stock turnover is four months. Consequently, the average price lag is two months. Current wholesale prices were compared with wholesale prices two months earlier. The results of this method gave a maximum potential squeeze of 617 million dollars. A further check was to estimate the squeeze by commodity groups (rather than type of outlet) in terms of average price lags. Here again, the results were very close.[7]

The retail price squeeze in March 1942 was relatively low because wholesale and manufacturing prices had already been controlled at

[5] The wholesale price data of the Bureau of Labor Statistics are really manufacturers' and packers' prices. The lag and the squeeze thus represent the lag in the distribution field rather than between wholesale and retail prices.

[6] Excluding nonmanufactured foods and meats for which the turnover is so rapid that retail prices are always close to replacement cost.

[7] The second method of computing the squeeze compares current wholesale prices with wholesale prices at some earlier period, determined by the average lag, while the first method measures the squeeze by the difference between the percentage increase in wholesale prices and in retail prices since the base period, June 1939. Thus, Method I assumes that (a) the percentage mark-ups were the same, both at the beginning and end of the period covered, and (b) that average inventory costs and replacement costs were identical in the base period.

January 1, 1942, prices or earlier for one-third of all commodities. Furthermore, retail prices had risen more rapidly than wholesale in the months immediately preceding the March base period.

Further Developments. More than half the wholesale index was controlled prior to the General Maximum Price Regulation. These controlled prices had risen 25 per cent between August 1939 and May 1942 (almost entirely before control was imposed). An additional 25 per cent of the index was controlled by the GMPR; these prices had risen 28 per cent. The uncontrolled segment of the index—farm products and foods—had risen 66 per cent.

As the following tabulation shows, the group that was uncontrolled before the GMPR increased twice as fast after Pearl Harbor as before, while selective control was slowing down the rise of the controlled group. But it was farm products and foods (which remained uncontrolled after issuance of the GMPR) that had risen most rapidly.

AVERAGE PERCENTAGE MONTHLY INCREASES IN CONTROLLED AND UNCONTROLLED WHOLESALE PRICES (B.L.S.)

Period	Commodities Controlled Prior to GMPR	Commodities Controlled by GMPR	Uncontrolled Commodities
From August 1939 to April 1941	0.5	0.4	0.8
From August 1939 to Pearl Harbor	0.8	0.6	1.4
From August 1939 to May 1942	0.8	0.7	1.6
From Pearl Harbor to May 1942	0.5	1.2	2.0
From May 1942 to September 1942	0.1	0.2	0.6

The GMPR has been successful in that the price indices of the controlled commodities were stabilized.[8] Controlled foods, representing 60 per cent of the wholesale index, were unchanged between May and August; uncontrolled foods, on the other hand, rose 10 per cent. The wholesale price level was stable between May and August after rising at an average monthly rate of 1.55 per cent from the spring of 1941. The small rise in the cost of living was due almost entirely to the rise in uncontrolled foods. Since May 1942, individual industry regulations have replaced much of the GMPR and new schedules have further extended the coverage.

One of the goals of effective price control is to name specific maximum prices in the regulation. It was possible to achieve this goal in almost half of the 90-odd schedules issued during this period. Producers' goods and standardized articles were relatively easy to handle, but new

[8] There is some evidence to indicate the downward lag of a short inventory cycle, following issuance of the GMPR, which helped temporarily to relieve the pressure on prices.

products and stylized merchandise required an alternative to the base period method of setting maximum prices. This, together with the fact that costs remained uncontrolled, forced the O.P.A. to adopt variations of the cost-plus formula.

These formulas have been used principally in the food field, where most farm prices remained uncontrolled, and in the clothing, where there is a notable lack of standardization. Prices of women's outerwear garments, for example, could not be priced by the March base period provided in the GMPR because fall clothing was not being made or sold in March. Moreover, because of style changes, prices could not be based on the 1941 season. Schedule No. 153 provides a cost-plus formula. The manufacturer's price is his cost plus his average percentage margin on garments in the same category sold in the 1941 season. Manufacturer's cost is the replacement cost after June 14, 1941, or the actual cost—whichever is lower—and includes labor cost at the wage rates of 1941-42, plus increases unconditionally granted prior to the issuance of the GMPR. The dealer's price is his actual cost plus the dollar mark-up taken by him on the largest number of garments of the same category sold in the 1941 season. The complexity of such formulas is, in itself, an obstacle to their effectiveness. It is to be hoped that they are only temporary.

The policy decided upon when the GMPR was issued was to hold the retail price level and to make necessary adjustments (a) by reducing prices at the earlier levels or (b) by using subsidies. Prices have been reduced in many cases. Subsidies are now being paid on a number of commodities, including coffee, cocoa, shortening and oleomargarine, sugar, petroleum, copper, lead, and zinc. However, difficulties with the subsidy program and the formula pricing-schedules referred to above have opened the way to a substantial breach in the March ceilings of the GMPR.

The administration of price control was hampered by the delay in the other parts of the inflation-control program. The GMPR was never intended to stand alone. Direct price control deals only with the effects. Rising income, the basic cause of inflation, was still cumulating upward. When the GMPR was announced, the President sent to the Congress a 7-point program requiring heavier taxes, reduced spending, and the stabilization of wages and farm income.

Despite the ceiling prices over a large fraction of the price structure, failure to deliver the other parts of the program jeopardized the existing controls. More adequate provision for subsidies and stabilization of wage rates and farm prices were particularly needed. Actually, these go hand in hand. Control of the cost of living is dependent upon income stabilization and income stabilization cannot be achieved without controlling the cost of living.

Farm Prices

The explanation of why effective price control was impossible under the original Price Control act calls attention to two extremely interesting and fundamental aspects of the parity price ratio.

The Price Control act, among other special restrictions, prevented the control of farm prices below 110 per cent of parity. Farm prices, which were unusually low when war broke out, were up 72 per cent in June 1942: The over-all parity ratio stood at 99, but the restriction applied to individual products.

It was estimated that, provided prices paid by farmers were rigidly controlled, the value of farm marketings would need to rise 2 billion dollars from June 1942 levels to reach the 110 per cent limit. But because of the necessary structural relationship among farm prices, it is not economically desirable to control all farm prices at 110 per cent (or at any other fraction) of parity prices. Meat prices were 25 per cent above parity, but feed prices were 25 per cent below. If feed prices rose to 110 per cent of parity, production goals would require that meat prices be permitted to rise further even though already out of bounds. The necessity for maintaining the supply of meat would add an additional 3.8 billion dollars to the value of farm marketings.

Parity price, of course, changes with the index of prices farmers pay. The parity index is not a ratio between farm and industrial prices but between prices received and prices paid by farmers. The surprise comes in the fact that a large fraction of the index of prices paid is farm products.[9] As a result, changes in the numerator almost automatically produce a smaller change in the denominator in the same direction. Thus, a rise in farm prices causes a smaller rise in the parity ratio because, at the same time, it has raised prices farmers pay. Were all non-farm prices rigidly controlled, the parity ratio would rise, within limits, as farm prices rise. Taking account of this interaction between farm prices and the prices farmers pay, the total increase in value of farm marketings permissible under the act would be, not 5.8 billion dollars, but 7 billions, which would increase retail values of food and clothing by over 8 billions, or 23 per cent.[10]

The same calculation was made assuming that corn prices rise to 110 per cent of parity and that other grains, which are now further below parity than corn, rise proportionally with corn. Of course, this would add less to farm values, the estimate being 1.7 billion dollars, and a further 2 billions for maintaining the feed-meat ratio. The inter-

[9] Feed and seeds have a weight of 12 per cent, and the raw component of food and clothing is equivalent to a weight about twice as great.

[10] Raymond Mikesell expects to publish a more comprehensive analysis of these relationships.

action between the numerator and denominator of the parity ratio would add a further 0.7 billion dollars to farm values. On this basis, farm values under the act could rise 4.5 billions and retail food and clothing values, 5.4 billions, or 16 per cent above June 1942 levels.

These estimates demonstrate that it was not possible to control inflation under the 110-per-cent-of-parity limitation.

Similar estimates show that parity ceilings would permit the value of farm marketings to rise 0.9 billion, the feed-meat ratio would add a further 3 billions, and the interaction one billion. The total rise of 4.9 billion dollars would increase retail food and clothing prices 16 per cent. If corn prices rose to parity and other grains rose proportionally, the corresponding estimate is 0.6 billion added to the value of farm marketings, 1.6 billions by the meats, and 0.5 billion by the interaction. The total increase of 2.8 billions would increase retail food and clothing prices 10 per cent.

It seems possible to live with parity only if feed costs are maintained below parity levels. The difference to farmers can, if necessary, be made up by subsidy payments. But this is a critical problem. The fact is that cash grain growers are now relatively better off with their prices 25 per cent below parity than are meat raisers with prices 25 per cent above parity. On a 1910-14 base, the 1942 net income of cash grain growers is estimated at 402, and that of hog-beef raisers and fatteners around 338.[11]

It is unrealistic to assume that other prices can be held rigid while farm prices are permitted to rise in the magnitudes indicated. The rise in farm prices not only generates additional farm income but also raises the food budget, thus rendering wage control more difficult. It would be impossible to prevent general upward wage adjustments with further rises in the cost of food and clothing of the magnitudes indicated above. Actually there was no limit to the rise in prices permissible under the 110-per-cent-of-parity provision in the act.

Wages

Wage costs have only recently become a major inflationary force. Unit labor costs did not rise in the first half of the period since August 1939. The substantial rise in the latter half has largely been absorbed out of profits; it has reached the price level in relatively few instances. On the demand side, however, the magnitudes speak for themselves. Wage income to May 1942 increased 79 per cent.[12] While real hourly earnings for all nonagricultural establishments were practically unchanged from August 1931 to May 1942 there are sharp differences

[11] See the Second Quarterly Report of the Office of Price Administration.

[12] Farm income is up in about the same proportion. Profits are up 265 per cent before and 65 per cent after taxes.

among the various industries. Manufacturing payrolls increased 130 per cent; employment rose 38 per cent, hours lengthened 12 per cent, cash hourly earnings rose 31 per cent, and cash weekly earnings 53 per cent.

In general, the increase in wage rates appears to have accounted for roughly one-fourth of the additional wage income. It is perfectly clear that stabilization of basic wage rates will reduce the acceleration but not stop the rise in wage income. There is, however, a limit to the longer hours and shifts to higher grade employment but no similar limit to rising wage rates.

By holding the lid on prices, the O.P.A. undoubtedly held down wages. But there were two serious limitations upon the indirect control of wages through the control of prices. First, a large and rapidly expanding sector of the economy was producing war materials over which the O.P.A. exercised little or no control. Second, profits were sufficiently fat in some sectors to permit wage increases without price adjustments. And these, in turn, would require a balancing wage increase in other areas where the adjustment could not be made out of profits.

The President's message to Congress on April 27 had called for the general maintenance of wage scales with (1) adjustments for inequalities and (2) elimination of "substandards of living." Nation-wide "stabilization" agreements which initially raised rates were subsequently negotiated in the shipbuilding and construction industries. The War Labor Board's most important decision was the Little Steel Case which provided that workers whose wage rates had increased less than the 13 per cent rise in the cost of living from January 1941 to May 1942 were entitled to have their "peacetime standards reestablished as a stabilization factor."

It was these facts which led the O.P.A. to take the toughest attitude in Washington toward wages.[13] Perhaps the most disturbing fact was the continued adherence to the collective bargaining principle in the face of general administrative determination of prices. The same forces which require wartime control over prices also require the administrative determination of wages. If management and labor are permitted to bargain over the distribution of the product, the government very shortly finds itself paying the bill. In addition, the entire system of war controls is endangered. War profits are abnormal; they should not be industry's to bargain away, nor labor's to demand. In order to function appropriately collective bargaining must operate under more normal conditions.

[13] O.P.A.'s wage policy was not taken without a great deal of soul-searching. It appears desirable to maintain labor's share of total income and to raise wages in the sweated trades but doubtful if both can be accomplished. Space does not permit development of these problems.

Rent Control

Before the passage of the first Price Control act, the O.P.A.'s activities were limited to advising Local Fair Rent Committees. On March 2, 1942, 20 areas in 13 states were defined as Defense Rental Areas. As a part of the GMPR, 302 areas with a population of 86 million people were added to the program on April 28; in the other one-fifth, rents were rolled back to earlier dates. Between May and September 1942, the rent component of the B.L.S. cost of living index declined from 109.2 to 107.6 (1935-39 = 100). This, of course, represents a very substantial reduction in rents in the specific properties affected.

Rent control, to date, appears to be one of the O.P.A.'s outstanding achievements. On October 5, when 45 additional areas were designated, practically the entire country was included in the program. The act requires that local governments be given a 60-day period within which to stabilize rents. Federal control does not become effective until 60 days after the O.P.A. has designated the rental area. The act now limits rent control to residential properties. It appears likely at the present writing that the Congress will include business properties as well.

Conclusion

The act to amend the Price Control act, passed after bitter controversy on October 2, represents a definite improvement in the prospect for effective control of farm and food prices. An Executive Order has paved the way for stabilization of wage rates.

It goes without saying that prices could have been more effectively controlled with a more flexible fiscal policy, with the earlier regulation of farm and food prices, with wage stabilization, with more subsidies, with inventory controls, with allocations and rationing of consumer goods. Within the framework in which it has operated, however, price control has been successful. The unparalleled expansion of production has been helped rather than hindered by price control. In the face of similar pressures we have had nothing approaching the inflation of World War I.[14]

The success of the program is due, on the one hand, to a series of bold policy decisions, and, on the other hand, to the fact that, despite

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14 Percentage Increase in Prices During First 37 Months of War

	All Wholesale	*All Wholesale Except Farm and Food*	*Metals and Metal Products*	*Cost of Living*
War I	85	85	120	30
War II	33	19	11	19

We have now mobilized our resources to about the same degree that had been reached at the end of World War I.

pinches here and there, price control to date has left generous elbow room for profits. The 78 per cent expansion of output, together with the change in its composition, has made it possible to limit the price rise to 19 per cent and, at the same time, industrial profits before taxes have risen 265 per cent in the face of moderately rising costs.

There have been four major policy decisions that required a courageous price administrator: first, to hold steel prices in the face of a 10 per cent wage increase in the spring of 1941; second, to issue the GMPR while farm prices and wages were remaining uncontrolled; third, to meet the wage issues squarely; and fourth, to seek more effective control of farm prices in the face of determined and powerful opposition.

Price control has inevitably been less effective than the indices show. There are countless forms of hidden price increases. But within limits, quality deterioration is the least harmful form of raising prices for, in this way, the cumulative character, which is the critical aspect, of inflation is avoided.

There are now in operation three broad types of price regulation. First, there are the schedules tailored to fit individual industries, the majority of which were issued before the GMPR. Some of these now need to be refitted. Second is the GMPR which has now outlived its usefulness. It should be replaced by schedules designed to fit the specific industry and trade. A third type is the series of regulations by price formula. These were expedients employed to bail out of problems created by the GMPR. They are unsatisfactory and are being replaced.

The second Price Control Act, which became law on October 13, 1942, made possible a significant extension of price control. Temporary Maximum Price Regulation No. 22, issued immediately thereafter, went far toward bringing the remaining uncontrolled prices under maximum ceilings. Eighty-five per cent of the economy at the manufacturing and wholesale level is now subject to price control. Uncontrolled commodities consist mainly of two-thirds of all farm products (those which have not reached parity) and less than 5 per cent of all foods (leafy vegetables and highly seasonal crops). Price control has now been extended to approximately 90 per cent of the average family's food budget, to practically all other retail commodities, and to many services.

Price control is now almost complete as far as coverage is concerned. The arduous job still ahead is holding the price level in face of rising demand, on the one side, with reduced supplies and rising costs, on the other. There will no longer be, as there has been in the past, a reservoir of rising profits to ease the pinch.

Effective price control must be enforceable by consumers. For this purpose, price regulations need to be sufficiently simple that consumers

can find out what maximum prices are. At the same time, the regulations must be reasonable to producers and recognize the complex structure of the various industries and trades. Meeting these dual requirements is the task on which the O.P.A. is now engaged.[15]

The acid test for direct price control is still ahead. To be successful it will need to be supported by a rationing program.

[15] A step was taken in this direction in the recent revision of Schedule No. 148 which fixed specific dollar and cents prices for more than 90 wholesale pork cuts and established 3 geographical differentials.

PRICE FREEZING UNDER THE OFFICE OF PRICE ADMINISTRATION

By VICTOR ABRAMSON

The General Maximum Price Regulation, promulgated by the Office of Price Administration on April 28, 1942, reversed a year-old policy of selective price control based primarily on cost and profit considerations. The existing explicit price schedules covering a number of specifically defined commodities were mainly continued, but to the remainder of the economy the new regulation applied, with a group of important exceptions, a general "freeze" of the prices of all goods and services at the highest levels at which actual deliveries or offers were made during the base-period of March 1942. The areas directly affected by this new control were primarily the retail sales of commodities and services, though manufacturing and wholesaling were directly influenced in many cases and indirectly in others.

The record of administration of this regulation has been one of continued retreat from the declared objective. In almost the first days of its life, a procedure was established for adjusting the individual retailer's prices upward to the going-level for specific classes of sellers in particular communities. The same principle was later applied to wholesaling and manufacturing. There followed a succession of amendments authorizing increases in the general level of prices for particular commodities, and establishing the governing principle of replacement costs plus customary *rates* of markup for certain groups of seasonal, new and unstandardized commodities covering a wide range of both consumer and producer goods.

On the enforcement front also difficulties were encountered. The educational task proved to be a formidable one, particularly at the retail level where the most severe problems had been anticipated. The control of services raised almost insurmountable difficulties. Comprehensive price freezing is at best extremely hard to enforce. The impracticability of the particular plan which was adopted, however, together with the inordinately obscure and unnecessarily complex language of the regulations, and the frequency with which they were

EDITOR'S NOTE: The author was formerly with the Office of Price Administration and is now with the office of Alien Property Custodian. The opinions expressed are the author's personal views and do not necessarily reflect the views of the Alien Property Custodian or the O.P.A.

amended and even basically modified in principle, added greatly to the difficulties of securing compliance.

Price control is most equitable and most effective where both the buyer and the seller know precisely the price which has been established. The clearest regulations are those in which the control agency names the actual prices which are fixed and identifies the commodities which are affected. If the seller is required to post lists of these governmentally determined prices, buyer knowledge will provide a strong enforcement influence. In the absence of sufficient information concerning actual transaction prices, the only choice in price freezing is to establish rules under which the seller determines and declares his own maximum prices. To be effective, these rules must be simple and clear and require the use only of readily available information. The posting of prices will in these circumstances serve no purpose beyond that which is served through the marking of the commodities, because the maximum prices are set by the seller in accordance with his interpretation of the regulations.

The O.P.A. chose to establish principles for individual price determination, rather than explicit price schedules, in its plan of price freezing, though it did retain existing schedules which presumably reflected actual transaction prices. Not only did it allow the individual seller to set his own prices, but it offered him the choice of a range of conflicting principles for making these determinations, and required him under some conditions to make use of information not easily available. The circumstances under which one or another principle was to apply were defined in the regulations, but the seller was left with important discretionary powers to decide which plan to follow. Moreover, the choices were such as to invite evasion of the purposes of the control.

Where a seller actually sold and delivered a commodity in March, the highest transaction price during the month was clearly to govern all future transactions. Where the commodity was dealt in but no deliveries were made, the highest offering price during the month was to control subsequent sales. Complications arose, however, when commodities not offered for sale during March were handled in a later period. In an effort to relate all maximum prices to March transactions or offering prices, the seller was required to base his prices for products not dealt in during the base-period, first, on the delivery or offering price "for the similar commodity or service most nearly like it" in which he dealt. If he did not deal in the same or similar commodities during March, he was asked to determine his "most closely competitive seller of the same class," and base his prices on the highest price charged by that competitor for the same product or service during March; and, if no charge was made by that competitor for the same

product or service during March, the charge for the similar commodity most nearly like it was to govern.

If in the seller's judgment he could not price under either of these provisions, he could in the case of wholesale and retail transactions follow a wholly different plan of maximum price determination. He was allowed at his own discretion to select some commodity in the same general classification and price range which he actually sold in March, or a similar one which he actually sold, to calculate the *percentage* markup over the replacement cost of that commodity, and to add the same *percentage* markup to the *replacement* cost of the commodity priced under that provision. In the case of other than wholesale or retail transactions, the seller was allowed to apply to the O.P.A. for an alternative pricing method if in his judgment he was unable to price under the existing provisions.

Problems of Administration

While an effort was made to define the terms "similar commodities and services," and "most closely competitive seller of the same class," the seller was allowed a wide range of individual judgment in choosing a product or competitor which would yield him a high price for any product not sold or offered for sale during March, or of shifting to a replacement cost basis in pricing these commodities. Under this principle of control, maximum prices would vary with the chance component of similar products handled during the base-period by the seller and his competitors, with the particular competitors who happened to exist at the time, and with the interpretations of "similarity" and "competitiveness" which the individual seller chose to make. The range of discretion which was thus provided created an inducement to shift to the manufacture or handling of new commodities in order to escape the more stringent provisions of the regulation, and held forth an invitation to "misinterpretation." This constitutes a particularly serious threat to the effectiveness of the control in those industries in which new products are being manufactured under the stress of wartime material shortages and conservation measures. Moreover, because it was impossible to avoid a recognition of style, brand, and design differences, evasion of the regulation may be relatively easy in many industries. In meeting this problem, it will be almost impossible to avoid either the obstruction of desirable changes in output or unworkably detailed regulation.

It is difficult to believe that anyone could seriously have expected sellers to be able to determine accurately their competitors' maximum actual transaction or offering prices during any period, or the most nearly comparable products which they handled. Moreover, the regu-

lation did not specify the sort of evidence which would be acceptable as an indication of competitors' prices, nor in what degree the "closeness" of the competitor was to take precedence over the "similarity" of the product. In an effort to define this provision more explicitly for retailers it was, furthermore, later negated and reduced to an absurdity. The bulletin *What Every Retailer Should Know About the General Maximum Price Regulation,* in explaining how a retailer should determine the "similar" article carried by a "competing" retailer, stated as one condition that it must have been "sold by the competing retailer at the same price or in the same price line as he [the retailer determining his price] would have sold the article being priced had he carried it during March" (p. 14). This means that the price-basis is the retailer's statement of what his own price would have been, rather than the actual price of a competitor, in a provision designed originally to establish prices in accordance with the actual transactions of competitors.

Perhaps the most serious danger to the effective administration of the regulation was the failure to reach many retailers with an understandable interpretation of its provisions. An active campaign of educational group meetings was conducted with varied success. To meet the many detailed problems which arose, a profusion of question-and-answer interpretations was issued, the effect of which was often to clarify the particular question while leaving in even greater doubt the treatment of slightly different situations. This procedure led to the prescription of rules for unnecessarily minute differences, and to a greater and greater rigidification of existing practices. For example, an effort was made to maintain departmental differences in the prices of an identical product within a single store and existing differences between private and national brands, and even to require a retailer who, during March, had sold similar articles purchased in the same lot in different price lines to continue this distribution between price lines in future purchases. Futhermore, one interpretation of the regulation forbade retailers from selling a new brand at a price higher than the March price for the lowest price brand carried in that month. A great deal of time and effort was devoted to the task of securing compliance with the posting provisions, under the mistaken impression that requiring the retailer to post prices which he himself determined, and which he had already marked on the individual articles, would contribute to enforcement. The results of all these efforts left many retailers unenlightened concerning their responsibilities. There was greater success in the wholesaling and manufacturing fields, but even here it is doubtful whether many understand the regulations.

Under any plan of freezing prices at their existing levels, problems

will arise because of the fact that some commodities were not sold during the base-period, because others were sold at unprofitable or extraordinarily low levels, and because there is often a great disparity in prices among individual sellers even in a single community. The O.P.A. quickly encountered all of these difficulties in the administration of the General Maximum Price Regulation.

There was an almost immediate protest from many who claimed that they had been selling certain products during March at "sale" levels, and from retailers who alleged that they were being "squeezed" because they had failed to advance their prices fully to compensate for recent increases in wholesale costs. Manufacturers of seasonal commodities who had no March offering prices, producers of commodities manufactured on an individual-specification basis, and producers of all products undergoing design or construction changes objected that the regulation did not provide a clear guide for the determination of their maximum prices. At the same time, producers who had not advanced their prices to cover recent cost increases, or who faced the prospect of increased material or labor costs which were not subject to control, opposed the principle of price freezing.

A variety of measures was developed by the O.P.A. to meet these difficulties. Retail prices were to be adjusted in individual "hardship cases" (defined as those in which a particular retailer was selling below his customary level and at a loss, with a resultant threat to his financial position) on the basis of specific applications. This principle of adjustment was later extended to similar cases in the wholesaling and manufacturing fields. After a confusion of conflicting declarations and counter-declarations, producers of certain groups of specifically defined "seasonal commodities" who had complained of marked cost advances since last season were allowed to price on a formula basis amounting to direct replacement costs plus the preceding season's rate of markup. In some instances, it was specified that the wage rates, material prices, and methods of cost estimation should be those in effect during March 1942. Similar formulas were also applied to certain nonstandardized commodities, and to some which were subject to unusual changes in specifications because of material shortages. In a few instances, the confusion was relieved by the establishment of explicit price schedules.

To meet the problem of the "squeeze," an effort was made to force a voluntary "roll back" or "roll forward" to equalize the burden of maintaining prices at March levels. Where there was no "surplus" at any level with which to absorb these burdens, it was hoped that subsidies could be made available to maintain output. These hopes were not realized, however. In some cases, where the outcry was most vociferous and the pressure strongest, price advances were allowed at

various levels of production and distribution. Increases in wage costs or in farm prices, which were left largely uncontrolled, sometimes formed the basis for these concessions.

The task of adjusting the prices of each individual retailer to the going-level for comparable sellers of similar products in his community is indeed a prodigious one, and one which is likely to be fraught with great dangers resulting from the lack of reliable data. There was some hope that the complaints and representations of individual sellers could be verified through shopping surveys in individual communities and through more general price information. Shopping surveys for each community in the land, however, would be wholly impracticable, and most general studies of price movements do not provide sufficiently detailed classifications of products and types of sellers to make them useful for this purpose. Moreover, if sufficient information of this character is available to judge the merits of particular complaints, it would be possible on this basis to establish explicit schedules, and thus avoid the confusing multiplicity of individual maximum prices and greatly improve the prospect of effective enforcement. The determination of the effects of the price freeze on the profits from the sale of particular products and the financial position of individual sellers would in the case of most retailers be an almost impossible task.

The formula-pricing principles which were introduced represented a reversion to the earlier principle of control on a cost-basis. However, the formulas which have been adopted do not consistently follow either actual costs or the costs of a given period. They are a hybrid of the two, representing a compromise of these conflicting principles. Where formulas of this character are not provided, the manufacturer who is forced to use more costly substitute materials, or less efficient labor, may be seriously harmed, because the "similar" product on the basis of which he must price these new products under the regulation has to be one of "fairly equivalent serviceability." If more costly new products are to be allowed correspondingly higher prices, there will be a problem of deciding whether to permit the older products also to rise in price. If they are not, price discrimination will result; if they are, there will be windfall profits.

The effort to provide subsidies to maintain output reveals one of the most significant dangers of price freezing. Where price controls are not related carefully to cost changes they are likely to operate perversely, causing uncontemplated and undesirable changes in output. On the other hand, a program of subsidization designed to counterbalance the defects of a price-control scheme will confront equal difficulties which call the entire plan of control into serious question.

It will obviously not be desirable to subsidize all production. Yet the

decision not to subsidize in the face of rigid price control may impose a death sentence on an enterprise or even an industry when demand conditions might under other circumstances have made possible its survival. The concept of "essential industries" is too greatly in dispute to make it of much service in establishing standards for subsidization. The political pressures and intrigues which are likely to result where extensive subsidies are employed, the encouragement to inefficiency in production which would be an ever-present danger under a program of this character, and the longer-range consequences of a filial reliance of industry on governmental support, argue strongly against the use of this device, particularly in view of the fact that the necessity for a subsidy in this case arises from the defects of another governmental control which may be corrected with less dangerous consequences. Moreover, a subsidy program can only contribute to inflationary pressures because of the enormous expenditure of government funds which it would require. It is true that government subsidies may represent merely an alternative to equal private expenditures. On the other hand, as is shown below, governmental expenditures, especially in time of war, are peculiarly likely to have an inflationary effect.

The lag of retail behind wholesale prices was found to be greater than had been anticipated. The roll back of prices to meet this situation was undertaken primarily on the basis of voluntary negotiations and, as might have been expected, met with considerable resistance. There were, however, several instances of success. When the effort to secure funds for subsidies failed, the entire program was jeopardized. Some upward adjustments were consequently allowed. That complaints have not been even more marked may perhaps be explained by the lack of familiarity or understanding of the regulations, and the consequent lack of effective compliance.

Quality Maintenance vs. Simplification and Standardization

There is a danger under any price control program that price advances will be cloaked by a reduction in quality. In dealing with this problem, the O.P.A. adopted a conflicting set of principles. It both encouraged and discouraged quality maintenance.

Where manufacturers and distributors complained that they were unable to cover their costs at the level at which prices were frozen, it was suggested that they reduce their costs by eliminating "frills" and reducing variety. Though in some cases the O.P.A. pointed to the War Production Board's conservation measures as providing cost-reducing opportunities, or made vague suggestions of its own, in many instances no positive standards or even general limits were set to control these changes. Yet, while these measures may make it possible to create the

illusion that prices are being controlled, their effect will inevitably be to promote an increase in prices through the substitution of a commodity or service of inferior consumer appeal.

Where manufacturers or distributors took the initiative in reducing quality or service, the O.P.A. sometimes followed the opposite policy. The offenders were taken to task for evading the regulation, and ordered to maintain quality substantially at pre-regulation levels.

Programs of standardization and simplification have long had support from those who regard their own judgments concerning commodity values and the economical use of income as superior to the buyers'. It is rarely possible to justify an imposed reduction in variety below that which will meet with consumer acceptance, though a strong case can be made for temporary controls of this character as a conservation measure, where there has been an abrupt and sharp reduction in the supply of some critical material or product, and where neither producers nor consumers may have adjusted themselves fully to the changed conditions. Viewed as a price-control measure, however, it is an unwieldy and insensitive device for compensating for cost increases, and the most deceptive and often least desirable means of allowing price advances. A better adjustment of prices and production can be assured if both are allowed to vary.

Quality maintenance, on the other hand, can in a certain form serve as an enforcement device for price control. It must, however, be carefully distinguished in this respect from proscriptions against the introduction of new products, with which it is often confused. The function of quality maintenance in a price-control scheme is to identify products by defining their specifications. This does not require restrictions against variety. New products always create new problems under price control, and, as we have seen, particularly difficult ones under the existing general freeze. The introduction of new varieties of production may not only be desirable, however, but necessary as a result of changes in material supplies or consumer needs, and it is scarcely defensible to prevent the best use of productive resources as a means of protecting a defective system of price control.

The difficulties of defining quality are greatest where the product is normally unstandardized, or where it ordinarily varies greatly from period to period. The control of services has, for this reason, perhaps been the most troublesome single problem under the general freeze.

Indirect Pricing Methods and Customer Differentials

Under any scheme of price regulation, it is necessary to control indirect pricing methods as well as the base-price itself. This was recognized under the general freeze by a provision requiring that "no seller

shall change his customary allowances, discounts or other price differentials unless such change results in a lower price."

A provision of this character works very well where discounts and allowances are used merely as a means of effectuating general reductions below the base-price. However, where these discounts represent compensation for services performed by the buyer, such control may have the effect of freezing unprofitable or undesirable forms of trade relationships. Similar difficulties will arise where the discounts represent a means of quoting price differentials to various classes of customers. Cost conditions or the utility of particular types of distributive channels may change, making any existing set of discounts obsolete. If they cannot be altered, some channels may be unnecessarily favored while others may encounter difficulties in securing supplies.

In handling the question of advertising allowances, the O.P.A. made an effort to distinguish between those which represent outright price concessions and those which support the performance of advertising by the buyer. It favored the former and allowed the latter on a discretionary basis. This is a proper distinction under a price-control scheme. There remains much to be done, however, in appraising the propriety of a wide variety of other indirect pricing methods, and in deciding appropriate regulatory measures for price-control purposes.

Control over War Materials

Special provisions were made under the General Maximum Price Regulation for controls over the prices of war materials. While at this time (September) the issue has not been fully settled, there has apparently been some disposition to exempt the heavier matériel and to control the lighter articles and sub-assemblies.

There is an advantage in controlling the prices of war materials, because the costs of governmental purchases represent the most significant influences affecting the course of inflation in wartime. On the other hand, the consequences of any obstruction to output which may result from price regulation are obviously much more serious in the case of war goods. It may even be contended, with some merit, that price control should be applied to civilian production while military output is left unregulated, as a means of promoting an expansion of war production.

Control of Exports and Imports

Export prices were subjected to controls similar to those which were applied to domestic transactions. This was necessary as a means of preventing an artificially induced outflow of commodities to foreign nations.

Difficulties arose, however, in defining precisely the transactions which would be regulated. Some commodities are sold abroad at wholesale, others at retail. Some are bought through agents here, others are ordered from abroad. Moreover, the costs and risks of foreign shipments have increased more markedly than have comparable domestic factors.

The general policy has been to allow for certain extraordinary expenses of foreign trade. The controls have been confined to the first level of transactions, and have been applied to purchases by American agents. Complaints have been widespread, however, that many costs have not been covered.

No direct controls have been applied at the earliest levels in the case of import transactions. Reliance has been placed largely on the repressive effects of controls at subsequent levels to exercise a limiting influence on import prices. Price regulations which obstruct the inflow of products from foreign countries will have an unfavorable influence on the war effort. Yet it is necessary to integrate these prices into the plan of domestic price control. We have been less troubled by this problem than have Great Britain and Canada, which rely more heavily on foreign sources for important materials.

The Over-all Earnings Basis for Price Adjustments

In determining the desirability of price adjustments, the O.P.A. has been guided almost from its earliest days by the over-all earnings of the individual concern. This policy is supported on two major grounds. It is favored as an instrument for the restriction of business profits, and it is accepted as an expedient means of setting prices so as to avoid the problem of allocating overhead costs. Under this policy, prices have been fixed at current levels and advances disallowed, or reductions required, so long as direct costs were covered and over-all earnings remained adequate.

The most serious criticism of over-all earnings as a basis for price control is that it provides no guide for the fixation of individual prices. This limitation does not become apparent until the over-all earnings position of a company is threatened, or the output of a product is seriously affected. Furthermore, it will lead to differential prices for identical products, and a product may be regulated when produced by some companies, but not when produced by others. Another set of difficulties will arise in administering price contol under the over-all earnings principle. Each time control is extended to a new product, or any existing fixed price is altered, it may become necessary to revise some of the other prices which have been fixed. Similar revisions may be required when changes occur in the supply or demand situation which

affect earnings on any of the products. Factors of this character are likely to be numerous and significant because of the many changes which war conditions bring in the supply of basic materials and resources, the efficiency of production, and the income position of buyers.

The over-all earnings basis for price control is least justified when regulation is extended to all, or nearly all lines of production, as it has been under the general freeze. In these circumstances, there should be no products which may be relied upon to carry the costs of others. Each of the controlled products will, therefore, have to be regulated separately on the basis of its own costs, even though firms with financial reserves may still be forced for a time to absorb losses on specific commodities.

Trends and Dangers

A great deal of what occurs in the future under the general price freeze will depend upon the success in securing funds for subsidies and an effective control over wages and farm prices, and on the degree to which excess purchasing power is absorbed through taxation and government borrowing. If these efforts should fail, it is doubtful whether direct price regulation covering so wide a range of commodities and services can be made effective.

Even if there is some considerable success in securing these supplementary measures, we are likely to witness a continuation of the trend toward explicit price schedules to replace the general freeze, and perhaps some upward price adjustments to compensate for cost changes. The profusion of variations and the dangers of evasion which result where each seller determines his own maximum prices are likely to grow increasingly unsatisfactory from an enforcement standpoint as new products are introduced. Essentially, this means a reversion to the earlier principles of control except in the range of its application.

The very range of these controls, however, is likely to prove their undoing. The sheer magnitude of the administrative task of adjusting all prices to changes in production, in costs, and in demands will scarcely be less than overwhelming. The danger of only limited and purely arbitrary action is, therefore, very great, particularly in view of the necessity for leaving much of the work to local officials in a program so vast as this. With no outlet for excess demands in uncontrolled areas, all of the pressures for change must spend their force within the sphere of control. If these pressures are not recognized, they will give rise to a series of black markets. Moreover, the extension of price controls will require an increased range of rationing. Rationing can operate to support price regulations. However, it creates equally difficult administrative problems of its own.

The failure to provide a satisfactory plan of price readjustment under the general freeze may prove disastrous. At no time have we experienced the necessity for changes in the structure of our production as pervasive as those with which we are now confronted, nor at any time has it been so imperative to insure the most rapid possible conversion of productive factors to new uses and their fullest and most effective employment. The necessity for preserving, in these circumstances, the clearest guides to action and the strongest incentives to maximum effort is plain.

A comprehensive scheme of price control has one important contribution to make to this objective. Where prices are fixed, there is less danger of a lagging in production because of uncertainties concerning costs, and there is less to gain from withholding supplies. Similarly, where wages are fixed, there is less of an incentive to transfer employment, with the consequent peril of time lost.

These advantages are likely, however, to be far outweighed by the evils of an all-embracing system of price control. Far from maintaining all prices and profits at reasonable levels and in proper relationship to each other, the result is likely to be the opposite. It will be almost impossible to avoid impediments to production resulting from the insensitivity of the controls to changes in efficiency and in demands, and to required substitutions of materials. Output will be governed not so much by what is wanted and needed as by what has been made profitable as a result of the price regulations. There will result undesired shifts in production and the obstruction of necessary and beneficial readjustments. The total effort is also likely to be adversely affected by the restricted opportunities for gain. Moreover, the business community is not likely to regard the future actions of governmental agencies as any less unpredictable than the competitive movement of prices.

The reasons for a shift from selective to over-all price control, and the use of the price-freezing technique, must be very strong indeed if they are to justify taking these risks. Practically speaking, the decision to extend the range of price controls so broadly can probably be traced to the notion that, if living costs were stabilized, demands for wage increases could be placated, a presumption which has proved ill-founded. The freeze technique was in a sense a measure of desperation, born of a lack of information and a lack of time for more sensitive controls.

Beyond these reasons for over-all price control, the primary support has been based on the presumed usefulness of this device as a means of controlling inflation, of regulating profits, and of keeping the real incomes of the low-income, fixed-income groups at a satisfactory level. The merits of this view we may now briefly consider.

The Prevention of Inflation

It is widely held that wartime inflation usually begins with price increases in the basic commodities and with wage increases for certain specialized types of labor, as a result of their scarcity in relation to the many new demands. The effect of these first increases, it is held, is to raise production costs and the costs of living, generally. These increases in living costs, in turn, provoke new demands for wage increases, thus touching off another series of increased costs and prices, and so on in a cumulative and progressive "spiral." This upward movement of costs and prices is likely to be sustained, it is held, by the increased borrowing and spending which are stimulated to meet the added production costs, and to be further strengthened by speculative purchases in anticipation of future price rises and loans made for this purpose. Were it possible to prevent the first price and wage increases resulting from scarcity, it is argued, the entire upward cycle of costs and prices might be forestalled.

There are, however, certain omissions in this explanation of the causes of wartime inflation and, consequently, certain limitations in the plan for its control. It seeks to account for a general expansion of the currency on the basis of increases in the prices of particular products, and for the incentive which is thereby created to press for wage increases and to extend borrowing and spending. Scarcities of particular types of materials, equipment, or services, however, are not likely to result in a general increase in prices. We know from experience that limited scarcity situations are always arising and that the pressure for wage increases is always present. Their usual effect, however, is to promote an expansion of supply through a diversion of resources, a tendency which grows stronger as the scarcity becomes more acute, and to bring about price declines for other goods and services, leaving the general level of prices unchanged. Only general shortages in commodities or, what is more pertinent in wartime, a general increase in demand such as is induced by an increase in the volume or velocity of circulation of money and credit can bring about a general price rise of an inflationary character.

In the theory outlined above, an attempt is made to meet this difficulty by arguing that in wartime scarcities are more widespread and pronounced in character, and that it is, therefore, easier to provoke a general expansion of money and credit. It is doubtful, however, whether particular scarcity situations can ever become so extensive or so severe as to promote a significant inflation of the currency, in the absence of other factors which have a more direct effect on the volume and velocity of the circulation of money.

There is, however, one factor which in time of war can, and often

does, operate directly to bring about an expansion of the currency. It is peculiarly true of governmental purchases that an increase in their costs may provoke an inflationary movement. Whereas an individual may be forced to meet rising prices by curtailed consumption, governments are likely to resort merely to new measures to finance expenditures, especially if they are for military purposes. The greater the disparity between actual and estimated costs, the greater is the likelihood that inflationary measures of finance will be employed; and once such inflation has got under way, the effect it has in increasing the costs of subsequent government purchases is likely to provoke an additional and progressive inflation. Perhaps even more important is the fact that a significant expansion of governmental expenditures may lead to inflationary methods of finance even though the prices of the goods purchased by the government are not allowed to rise. The resultant pressure for price increases is likely to become all-pervasive as the increased purchasing power is disseminated throughout the economy.

The objectives of preventing inflation can, under this theory, at most justify price regulation only for those goods and services which are important in the cost of living of the mass of the people, the basic raw materials of production, and government purchases. If in spite of these limited controls inflationary forces continue, price regulation will affect only the outward manifestations and not the causes themselves.

The Control of Profits

It is difficult to combine control over the prices of specific products with general profits control in the same regulation. Whereas price control must be applied to particular products or groups of products, the regulation of general profits is necessarily directed at the total operations of individual business units. As a result, where price control is the objective, uniform prices will be fixed on a product basis, while, where the purpose is to control general business profits, prices will be set on the basis of the specific costs and general income of particular operating concerns. These two purposes of control are likely to require greatly different prices for particular products. Moreover, the principle of regulating prices so that the over-all earnings of individual business enterprises will not exceed a level regarded as reasonable implies as a corollary that a sufficient number of the products manufactured by these concerns will be allowed to rise high enough to make possible the earning of a reasonable rate of return. The effect of this type of regulation will be to place a premium on inefficient operation and cost-padding and on the separation of efficient and inefficient operations

into different units; and it is certain to lead to dissatisfaction on the part of those who will be forced to pay the higher prices.

It is doubtful, moreover, whether the objective of general control of wartime profits can best be accomplished through price regulation. The effect of regulation of this character is to tax the general profits of a corporation and to turn the proceeds over to the particular buyers who may purchase the price-controlled products. While this form of regulation can be defended where the transference of gain is controlled through rationing, it is questionable under other circumstances. A simpler and more certain device for limiting general corporate profits is to tax them directly. Similarly, a more acceptable procedure for the protection of buyers is to impose controls on a product rather than a producer basis, so that all purchasers may be treated alike, supplemented by rationing where there is a desire to assign the gains from this form of control to particular buyers.

The Stabilization of Income

This leaves to be considered the usefulness of general price freezing as a device for the stabilization of income. No matter how successful the effort to absorb excess purchasing power may be, the supply and demand situation for particular commodities may, nevertheless, provoke precipitate increases in their prices. Those who have favored income stabilization through price control have generally confined their proposals to the low-income, fixed-income groups. It would be difficult to justify a broader extension of such a program. If price control is to be used only to stabilize these incomes, it will be unnecessary to extend the regulations as broadly as they have been under the general freeze. The control of certain basic elements of food, clothing and shelter would suffice.

Limited selective price control, moreover, has certain important positive advantages. The regulations can be framed more carefully so that they will be equitable, workable, and properly adjustable, and it is more likely that they can be enforced effectively. Necessary supplementary production control and rationing measures can be developed and applied more easily to a narrower sphere, to assure the proper incidence of the burdens and gains. The presence of an uncontrolled area of production will diminish the danger of wholesale breakdown of the regulations, and the nation can be spared the expense and bother of a huge and widespread administrative organization.

MONETARY THEORY AT THE TEXTBOOK LEVEL

By ARTHUR W. MARGET

I

The jacket of Professor Reed's excellent textbook[1] announces the author's determination to depart "from the orthodox categorical and factual presentation of the subject" in order to provide "a better understanding of recent and revolutionary developments" not only in "monetary policies" but also in "*theoretical interpretation*"; and the Preface (p. vii) to Professor Halm's equally admirable text[2] announces a similar determination to present "a more detailed *theoretical* analysis" than is to be found in most texts on the subject.

A superficial thumbing of the two texts might easily lead to the conclusion that only Professor Halm has actually carried out his determination. For even a more careful reading of Professor Reed's text must reveal that he is primarily interested in precisely those "institutional and historical characteristics of the various money and banking systems" whose treatment Professor Halm, according to his own statement, wishes "to avoid as far as possible" (p. 38 n.; *cf.* also pp. vii, 46, 59), and in those "essential features of the banking *structure*" which Professor Halm, again in his own words, has introduced solely "by way of illustration" (p. vii). But to twist this conclusion to mean that Professor Reed's text has nothing to offer to those interested in the very same "theoretical problems" to which Professor Halm has devoted his "major emphasis" (p. vii) would involve serious injustice not only to Professor Reed, but to Professor Halm as well. For such a twist would represent nothing less than a dilution and perversion of the substance of "monetary theory": a dilution and perversion as characteristic of those unworthy disciples of Mr. Keynes who have misunderstood the implications of their master's decision, in his *General Theory*, to allow "technical monetary detail" to "fall into the background," as it will prove to be fatal to any hope of breeding a new generation of monetary theorists superior to the old.

EDITOR'S NOTE: The author is professor of economics at the University of Minnesota.

[1] Harold L. Reed, *Money, Currency, and Banking*. (New York: McGraw-Hill. 1942. Pp. viii, 522. $4.50.)

[2] George N. Halm, *Monetary Theory: A Modern Treatment of the Essentials of Money and Banking*. (Philadelphia: Blakiston. 1942. Pp. xi, 347. $3.50.)

This will not be readily admitted by those whose precepts and performances remind one of schoolboys who dream of becoming great physicians and great lawyers as it were by divine inspiration, without the preliminary drudgery involved in mastering anatomical and physiological detail, on the one hand, or institutional legal practice, on the other. Such neophytes can confidently be expected to turn into economic "theorists" of the type pilloried by Bagehot when he spoke of some economists as being "like physicians who have never dissected, like astronomers who have never seen the stars." But there is more hope for him who will ponder the implications of Professor Halm's suggestion (p. vii) that the ultimate aim of his textbook, like that of any text in monetary "theory," is to further "the student's understanding of the *working of the monetary system*."

For to such a person, if he is intellectually honest, it must be immediately clear that, whatever else the attainment of such an "understanding" involves, it must involve also an accurate knowledge of all those processes and mechanisms which are what they are because of a set of specific *institutional and structural facts*, and which would be very different indeed if these institutional and structural facts were different from what they are. This, after all, constitutes at once the basis and the justification for a proposition, advanced explicitly by Professor Reed, which may seem to conflict, but does not in fact conflict, with his own implied disapproval, in his Preface, of the too *exclusive* desire of authors of some earlier texts on Money to provide what Professor Reed calls "little encyclopedias of financial institutions." Professor Reed's contention, indeed, is that, while monetary theory may in some respects be said to have suffered in the past from too exclusive a concern of this kind, it can also be said to have suffered in other respects from *too little* concern with the problems of what he calls (pp. 205, 468) "bank management," an understanding of which of course at once includes and is part of an understanding of the institutionally conditioned processes and mechanisms just indicated.

Since a complete survey of the evidence marshalled by Professor Reed in support of his contention would involve reproducing a considerable part of his book, it is obviously impossible to attempt such a survey here.[3] Fortunately, however, the task is made unnecessary by

[3] A few typical instances may be cited, however. See, for example, (1) pp. 205 *f.* of Professor Reed's text, on the relation of a "healthy solvency situation" of "the banks of the country" to the "flow of credit" and therefore to "deflations and depressions"; and pp. 348 *ff.*, on the relation, to the "solvency" of the banking system, of the condition of "overbanking" which, Professor Reed argues, prevailed "during the decade of the twenties"; (2) pp. 358 *f.*, 364 *f.*, on the effect of the canons of "soundness" followed by bank *examiners* in determining how "solvent" the banking system is, and therefore the degree of liberality which is likely to be shown in the extension of credit to business borrowers; (3) pp. 360 *f.*, 365, on the relation of the policy of supervisory authorities with respect

a consideration of the relevant aspects of the text by Professor Halm. For Professor Halm is too good a monetary theorist to present his discussion of the "theoretical problems" to which he devotes his own "major emphasis" as if this discussion could be regarded as displacing, or making unnecessary, the kind of discussion of mechanisms and processes under a given set of institutions which fills the greater part of Professor Reed's text. On the contrary, he makes quite clear, in his Preface (p. vii), that "the main object of this book is to *complement* such treatments"; and the proof that the two books do in fact complement each other in this respect can be tested by noting the number of instances in which they complement each other to the point of actual overlapping. On a strict interpretation of Professor Halm's professed desire to leave to "the works of other authors" (*cf.* p. vii) a treatment of the "institutional and historical" aspects of the subject of Money and Banking, one might expect Professor Halm to omit many topics dealt with only in a text like that of Professor Reed. Yet the following may be taken as a list of such typical topics which are treated also by Professor Halm:

1. The relation of Money to the "institutions" of Capitalism and Socialism generally, and the relation of given fiscal, monetary, and banking policies to the future of the institutions of private enterprise (pp. 3 *ff.*, 11 *ff.*, 94, 322 *ff.*; *cf.* Reed, pp. 1, 28, 298, 446).
2. The power of legal and political institutions (including the conferring of the legal tender quality) to affect the value of money (pp. 102 *ff.*; *cf.* Reed, pp. 28 *f.*, 486 *f.*).
3. The historical and material elements involved in the choice of the precious metals as "media of exchange" (pp. 25 *f.*; *cf.* Reed, pp. 3 *f.*, 8 *f.*, 41 *ff.*, 57 *ff.*, 106 *ff.*, 489).
4. The institutional assumptions of the metallist argument (pp. 14 *ff.*, 26 *f.*, 102 *ff.*; *cf.* Reed, 41 *ff.*, 58 *f.*, 140 *ff.*, 162 *f.*, 391 *ff.*).
5. The meaning of a "monetary standard" (p. 105; *cf.* Reed, pp. 52 *f.*, 490 *f.*), and the peculiarities of the various monetary standards that have existed historically (pp. 105 *ff.*; *cf.* Reed, 51 *ff.*, 106 *ff.*).

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to strengthening the capital structures of banks to a desire to "avoid carrying deflation too far"; (4) pp. 267, 274, 355, 410, on the relation of the technical prescriptions of the Federal Reserve act with respect to the issue of Federal Reserve notes, prior to the passage of the Glass-Steagall act, to the unwillingness of the Federal Reserve authorities to inaugurate measures designed to halt the restrictive policies of member banks in the early years of the depressed 1930's; (5) pp. 311 *f.*, on the relation of "the precept that . . . member banks should not engage in permanent borrowing" (*cf.* pp. 268 *f.*) to the effect of gold inflow upon the process of member bank expansion in the United States; and (6) the general remarks, pp. 469 *ff.*, on the relation of "the *structure* of the [banking] system" to the fact that "there have been many instances in which efforts of the monetary authorities to expand or contract the currency have been thwarted by contrary practices of [member] banks," given the prior fact that it is "our *banking* system" that "provides the greater part of our media of payment."

6. The institutional arrangements for "guaranteeing" the "identity of value" of a given metal when used as a "medium of exchange," on the one hand, and when used "for industrial purposes," on the other (pp. 26, 105 *ff.; cf.* Reed, pp. 51 *ff.*).

7. The institutional arrangements for the proper "management" of "token money" (pp. 27 *f.; cf.* Reed, pp. 18 *ff.*, 22, 24, 114).

8. The mechanism of changes in the supply of metallic money, under the institutional arrangement of a price for the money metal "fixed by legal authority" and changes in the cost of production of that metal (pp. 46, 107; *cf.* Reed, pp. 385 *ff.*, 393).

9. The mechanics of bimetallism, including the "law of compensatory action" (pp. 108 *ff.; cf.* Reed, pp. 57 *f.*, 106 *ff.*).

10. The implications, for analysis and policy, of the institutional fact of "the overwhelming quantitative importance of what we have called deposit money (or check book money)" (pp. 34 *ff.; cf.* Reed, pp. 7, 11, 13 *f.*, 47 *f.*, 50, 230 *ff.*, 384 *f.*, 469).

11. The mechanism of the "creation" of "deposit money" (pp. 36 *ff.; cf.* Reed, pp. 30 *ff.*, 165 *ff.*), including the influence of the institutional fact of *clearings* on the possibilities of expansion open to a single bank within a banking system, on the one hand, and a single bank in isolation or the banking system as a whole, on the other (pp. 41 *ff.*, 63; *cf.* Reed, pp. 35 *ff.*, 165 *ff.*).

12. The institutional, as well as the purely logical, basis for regarding "time or savings deposits" in banks as part of the quantity of "money" (pp. 33, 69; *cf.* Reed, pp. 146 *f.*, 169 *ff.*, 501 *f.*).

13. The relation between the amount of bank reserves required and the time-structure of the community's probable demand for funds, as well as the "nature of the bank's operations" and the "structure of the whole banking system" (pp. 35, 44 *f.; cf.* Reed, pp. 182 *f.*).

14. The economic significance of *legal* reserve requirements (pp. 45, 56; *cf.* Reed, pp. 79, 246 *ff.*, 264 *ff.*).

15. The economic consequences of the institutional practice of *fractional* reserve requirements, and the implications of "100 percent money" (pp. 56 *ff.; cf.* Reed, 34, 425 *ff.*).

16. The institutional argument that the "increase [resulting from a rise in the rediscount rate] in the cost of procuring additional deposits with the central bank need not be prohibitive for institutions which have, between them, the power of multiple credit expansion," since "multiple credit expansion" means "multiple interest revenue" (pp. 58 *f.; cf.* Reed, p. 39).

17. The dependence of "the rôle played by rediscount policy" upon the "historical development and institutional arrangements in the different countries" (p. 59; *cf.* Reed, pp. 162, 252 *ff.*).

18. The relation established between "common money" and "claims on common money" by the structural and legal factors affecting the degree of control by the central bank over member bank reserves (pp. 29 *ff.*, 34 *ff.*, 57 *ff.*, 62 *ff.; cf.* Reed, 228 *ff.*, 254 *ff.*, 276 *ff.*).

19. The effect, on this relation, of institutional and structural factors affecting

the internal drain (pp. 43 *f.*, 64, 257; *cf.* Reed, pp. 280, 285 *ff.*, 353, 357).

20. The significance of, and the limitations upon, open market operations by central banks (pp. 59 *ff.*; *cf.* Reed, pp. 252 *ff.*, 268 *ff.*).

21. The significance, for central bank policy, of structural relations between the short- and long-term loan markets, on the one hand, and the commodity and the security markets on the other (pp. 61, 228 *ff.*; *cf.* Reed, pp. 325 *ff.*).

22. The relation of institutions and the facts of banking structure to the general theory of "liquidity" (pp. 227, 233 *ff.*; *cf.* Reed, pp. 177 *ff.*, 191 *ff.*).

23. The importance of the institutions of "the stock market and of stock speculation"—an importance, according to Professor Halm himself, which "can hardly be overestimated" for both the theory of interest and the channeling of investment funds (pp. 228 *ff.*; *cf.* Reed, pp. 327 *f.*, 330 *ff.*, 347 *f.*).

24. The mechanism of foreign-exchange rate determination and of international payments under various types of monetary standard (pp. 133 *ff.*; *cf.* Reed, pp. 61 *ff.*, 71 *ff.*), including the theory of the external drain (pp. 136 *ff.*; *cf.* Reed, pp. 79 *ff.*, 92, 314, 325 *ff.*, 343 *ff.*, 456).

25. The possibility of reconciling a policy aiming at stability in internal prices and production with a policy aiming at stability in foreign exchange rates, in the face of institutional obstacles to price flexibility and governmental efforts to combat unemployment (pp. 139 *ff.*, 154 *ff.*; *cf.* Reed, pp. 318 *ff.*, 335, 345 *f.*, 395, 455 *ff.*).

26. The disequilibrating, as well as the equilibrating, effects of international capital movements (pp. 140 *f.*; *cf.* Reed, p. 87), and of flexible exchange rates and foreign exchange controls (pp. 142 *ff.*, 153 *ff.*; *cf.* Reed, pp. 80 *f.*, 86 *ff.*, 115, 121 *f.*, 134 *f.*, 301, 335 *ff.*).

27. The rôle of government with respect to tariffs in the mechanism of international debt payment, and its rôle in the establishment and manipulation of foreign exchange controls, including, under the latter head, exchange stabilization funds (pp. 153 *ff.*; *cf.* Reed, pp. 87, 301, 333).

28. The *modus operandi* of exchange stabilization funds (pp. 167 *ff.*; *cf.* Reed, pp. 338 *ff.*).

29. The future of the legal and institutional framework of the international gold standard, in the light of these considerations (pp. 159 *ff.*; *cf.* Reed, pp. 455 *ff.*).

30. The dependence of the choice between devaluation and an attempt to maintain the former parity upon the quantitative importance of contractual elements, such as the size of the country's foreign debt, and the international financial structure (p. 170; *cf.* Reed, pp. 315 *ff.*).

31. The rôle of institutional and contractual elements in determining the degree of "maldistribution of income, so characteristic of hyperinflation and its aftermath" as well as of less extreme inflation and deflation (pp. 77, 127, 261; *cf.* Reed, pp. 294 *f.*, 300 *f.*).

32. The influence of political factors in the choice of particular goals of monetary and banking policy (pp. 120 *f.*; *cf.* Reed, pp. 32 *f.*, 41, 47, 129, 225 *f.*, 240 *ff.*, 356).

It would be a mistake, moreover, and an injustice to Professor Reed, to suppose that the only instances of "overlapping" between the two texts are instances in which Professor Halm's book may be said to "overlap" Professor Reed's book, rather than the other way around. On the contrary, the number of cases in which Professor Reed undertakes to deal with the issues to which Professor Halm devotes his "major emphasis," while it may not be as large as the number of cases in which Professor Halm comments upon the institutional presuppositions of his main argument, is still very large.[4] To the careful reader of both of these texts, therefore, the subject of Money must appear to be something quite different from the oversimplified abstractions or

[4] The very fact that both writers weave their discussion of "institutional" factors into their "purely" theoretical discussion must mean that any list of instances which would not duplicate many of the items in the list given above in the text must seem to understate, particularly in the case of Professor Reed, the number of instances of "overlapping" of the type here indicated. But the following instances may be taken as typical:

1. The theoretical implications of the various "functions" of money. The distinction between money as "money of account" (in the sense both of a *numéraire* and of a standard of deferred payments), on the one hand, and money (or, as Professor Reed would insist, "currency") as "medium of payment," on the other, is particularly stressed by Professor Reed, both as a formal matter and for its importance in understanding monetary processes and policies (chap. 1, and pp. 108, 110, 115, 128, 143, 485 *f.; cf.* Halm, pp. 2 *ff.*, 11 *ff.*, 16 *ff.*, 104 *f.*, 118 *f.*, 132 *f.*).

2. The economic meaning and therefore the limitations on the use of index numbers (pp. 145 *f.*, 307 *ff.*, 496 *ff.; cf.* Halm, pp. 93 *ff.*, 117 *f.*).

3. The rôle of the rate of interest in the determination of the demand for bank loans and other investment funds (pp. 90, 161 *f.*, 225, 306 *f.*, 328, 439 *f.; cf.* Halm, pp. 32, 42, 49 *ff.*, 63, 174 *ff.*, 198 *ff.*, 204 *ff.*, 212 *f.*, 243 *ff.*, 255 *ff.*, 267 *f.*, 295, 298, 311 *f.*).

4. Nonmonetary factors (including those implied by the concept of a "mature economy") affecting the demand for bank and other investment funds and the level of business activity (pp. 220 *f.*, 292, 443 *ff.; cf.* Halm, pp. 64 *f.*, 269 *ff.*).

5. The differences, and the relations, between the short- and long-term loan markets (p. 90; *cf.* Halm, pp. 49, 54 *f.*, 61, 237 *ff.*).

6. The general theory of loan-liquidity (pp. 177 *ff.; cf.* Halm, pp. 55, 187, 196 *f.*).

7. The theoretical relations between "velocity" and the volume of "trade transactions." (The apparent error involved in Professor Reed's flat statement [p. 499] that when "goods pass through fewer hands in their journey from manufacturers to consumers, . . . this reduction of middlemen's activities lowers the volume of currency turnover, and consequently V of the equation of exchange" may be solely a matter of his exposition, from which it is not entirely clear whether he is making the statement on his own account, or is introducing it solely as part of the argument of the correspondent he mentions. *Cf.*, in any case, Halm, pp. 79 *f.*, 83 *f.*).

8. The theoretical implications of various possible criteria for monetary policy (pp. 9, 313, 325, 398 *ff.; cf.* Halm, pp. 96 *ff.*, 116 *ff.*, 205 *ff.*, 251).

9. The theoretical relations between internal prices and the foreign exchange rate (pp. 89 *f.*, 103, 121 *ff.*, 136, 154, 296 *f.*, 305 *ff.*, 318 *ff.*, 356; *cf.* Halm, pp. 147 *ff.*), including the effect of currency devaluation on internal prices (pp. 163, 335, 370, *ff.*, 378 *ff.; cf.* Halm, pp. 170 *ff.*).

10. The theory of public spending, including its relation to banking policy and the structure of available resources (pp. 441 *ff.; cf.* Halm, pp. 87, 312 *ff.*).

11. The theoretical issues involved in the problem of war finance (Reed, pp. 292 *ff.*, 413 *ff.; cf.* Halm, pp. 324 *ff.*).

the inchoate mass of technical and historical detail which it must seem to those whose reading has been confined to authors who take a narrower view than either of the two under discussion.

A careful reader, moreover, should have no difficulty in seeing what it is that serves as an organizing principle for the *integration* of material such as the bulk of that to which Professor Halm devotes his "major emphasis" with that to which Professor Reed devotes his. For both authors, undismayed and unterrified by the obloquy heaped upon the "*equation of exchange*" as an organizing device before and since the appearance of Keynes's *Treatise,* have unashamedly accepted it (Halm, pp. 21 *ff.;* Reed, pp. 143 *ff.*) as the best available framework for the presentation of material otherwise so complicated and extensive as to invite not only endless confusion but even positive error.

This feature of Professor Halm's presentation can hardly escape even those who will not go beyond the titles of the chapters immediately following the pages (21-24) on which he describes the purpose of the "equation of exchange."[5] Nor will it escape those more careful readers who will observe the kind of use Professor Halm makes of the framework of the "equation of exchange" in his discussion of particular problems of analysis or policy, even if he does not explicitly reproduce the familiar algebraic symbols in every case (see, for example, pp. 6, 10, 89, 98 *f.*, 123 *f.*, 129 *f.*, 175, 194 *f.*, 197 *f.*, 218 *f.*, 230, 249, 295, 321, 326).

A similar implicit use of the equation as a framework for analysis is to be found in Professor Reed's text (for example, pp. 366 *ff.*, 408 *f.*, 436, 479). But it would be a serious error to suppose from the mere fact that Professor Reed has not chosen, as has Professor Halm, to entitle a series of chapters in such a way as to relate them explicitly to the symbols used in the more common variants of the equation that he has left the reader in doubt as to the relation of his detailed discussion to the framework which he formally accepts. On the contrary (and particularly if one makes use of the algebraic breakdown of M which is presented on p. 31 of the book by Professor Halm, who here follows Fanno, who in turn avowedly based his formulation on that of Fisher), Professor Reed's exposition should leave the reader in not

[5] Chap. 3 is entitled "The Quantity of Money"; chaps. 4 and 5, "Deposit Money" and "Managing the Quantity of Money," respectively; chap. 6, "The Velocity of Circulation of Money"; chap 7, "The Trade Volume"; chap. 8, "Price Levels." Careful readers will note also that chaps. 9 to 12, inclusive, all of which are concerned, in one way or another, with the functioning of different *monetary standards,* are implicitly made part of the discussion of the forces lying beyond the "Quantity of Money" (*cf.* chap. 3 of Professor Halm's text) by the author's statement that "different monetary standards are fundamentally nothing else but different methods of limiting the total *quantity of money*" (p. 103; *cf.* also pp. 105, 116).

the slightest doubt as to where each of his chapters belongs with reference to the variables in his formal framework.[6] This similarity in attitude toward the fundamental framework of monetary theory can be greeted only with the heartiest approval by one who, like the present reviewer, is convinced that the most important single cause of the confusion and misunderstanding and even retrogression which, along with undoubted progress in many directions, has characterized the monetary theory of the last decade has been the failure to recognize the extent to which the recent burgeonings within the field have brought here, as elsewhere in scientific endeavor, "disillusionment as well as elucidation": disillusionment to the extent that we recognize in later elaborations "facts which were long before known and even

[6] It is sufficient to illustrate the point here by reference to the terms M and M' of the equation of exchange. Since Professor Reed, in advancing, against "metallist doctrine," the proposition that "the gold standard is fundamentally a device for restricting the volume of the currency that represents gold" (p. 163) evidences his agreement with the proposition quoted in the preceding note from Professor Halm with respect to "different monetary standards" as "fundamentally nothing else but different methods of limiting the total quantity of money," it follows that M is the subject, not only of Professor Reed's chap. 2, entitled "Our Currency System" (which should be compared with Professor Halm's chap. 3, entitled "The Quantity of Money"), but also of all those chapters (4, 5, 10-12, 26-28, 32-34, 39) in the Reed book which are concerned with the functioning of various monetary standards. The "functioning of various monetary standards" *internationally* is of course one of the things that will affect the "quantity of currency" in any *one* country; and since the "functioning of various monetary standards internationally" is a problem of foreign exchange and international payments, it follows that Professor Reed's chapters devoted to the latter topics (chaps. 7 [to which chap. 6, on "Domestic Exchange," is avowedly presented (*cf.* p. 70) as an introduction], 8, 9, and 29) are likewise to be regarded as part of his discussion of the "quantity of currency." A comparison of the content of Professor Halm's chap. 4, on "Deposit Money," with Professor Reed's chaps. 3 ("How Banks Provide the Payment Media") and 15 ("The Source of Bank Deposit Currency") will reveal that the latter chapters are concerned with nothing if they are not concerned with the factors lying behind the M' of the equation; and the relevance of chaps. 16 ("Local Loans and Mortgages") and 17 ("Outer Market Investments") to the same problem is made perfectly clear by Professor Reed's explicit statement (p. 177) that in both chapters he is concerned with "the processes by which the circulating medium is provided." Similarly, the relevance, to the same problem, of the chapters on member bank *reserves* (chaps. 20, 24, 37) and on the powers of the Federal Reserve authorities to affect those reserves (chaps. 22, 23), as well as on the criteria by which the Federal Reserve authorities should be guided in the use of these powers (chap. 35), should become clear when one observes their relation to the terms $Rtrt$ and rd of the formula of Professor Halm, based on that of Fanno, to which reference is made in the text, if their relevance is not already clear on the basis of a comparison of their substance with that of Professor Halm's chap. 5, on "Managing the Quantity of Money." And last, but not least, it is not Professor Reed's fault if some readers should remain puzzled as to the relevance, to the M' of the equation of exchange, of Professor Reed's chapters on certain of the factors affecting bank solvency (chaps. 18, 19) and on the problems of banking *structure* (chaps. 21, 22, 30, 31, 40). For, as was pointed out in note 3 above, Professor Reed's own explicit reason for insisting upon these matters is precisely his conviction of their relevance for the magnitude of the "flow of credit" under a set of institutional arrangements whereby it is "our *banking system*" that provides "the greater part of our *media of payment*."

instinctively perceived, our present recognition being simply more distinct and more definite; and elucidation, in that it enables us to see everywhere throughout the most complicated relations the same simple facts."

It should be apparent, from the general tone of this review thus far, that the reviewer believes that both Professor Reed and Professor Halm have acquitted themselves with high credit of the respective tasks which each has set himself. This is not to say that the reviewer is prepared to agree with everything that each of them has to say. On the contrary, there is a very considerable number of passages in each book to which he would take marked exception—indeed, in some cases, violent exception. Yet when all the demerits (if they are in fact demerits) are catalogued, the fact remains that in each case the book represents the generally successful accomplishment of a job well worth doing. In the case of Professor Reed, for example, the very fact that a reader can find so much to challenge him to respectful dissent in a treatment of issues so generally regarded as closed is itself a tribute to the freshness of treatment which has resulted from the author's obvious determination to think through again a whole series of familiar (but perennially recurring) problems. And Professor Halm would deserve the thanks of teachers, if on no other ground, for the very effort to provide a textbook which, along with texts such as L. V. Chandler's excellent *Introduction to Monetary Theory,* belongs to the very small number of those attempting, and attaining a reasonable degree of success in the attempt, to "summarize the present state of the debate in monetary theory" (p. vii), as that debate has developed since the publication, in 1929, of the second edition of D. H. Robertson's classic little text on *Money.*

II

It is, therefore, in no hypercritical spirit that one ventures to suggest that, for all the undoubted merits of these two texts, there is still room for other textbook attempts to carry further the task to which both writers, building on the work of their predecessors, have undertaken with such generally excellent results. That task, according to the explicit statement of both authors, is the task of further *integration* of material, all of it properly to be subsumed under the head of "monetary theory," which has not always been sufficiently integrated in the past. In the case of Professor Reed, as we have seen, what is attempted is the integration of the study of institutionally conditioned mechanisms and processes into a broad analytical system of money- and goods-flows, of the kind indicated by a proper understanding of the implications of those "stream equations" of which the "equation of

exchange" is the prototype. And in the case of Professor Halm, what is attempted is a restatement of the results obtained by "recent efforts" toward "integrating monetary and *general* economic theory" (p. vii) in such a way as to show their relevance for the further elaboration of such an analytical system of money- and goods-flows. What follows represents only a few examples of the way in which this work of "integration" can be carried further at the textbook level.

In the first place, there is the matter of further "integration" *within the field of "monetary theory" itself* (in a narrower sense of the term "monetary theory"). It is, to be sure, gratifying to see the "cash balance approach" treated by both Professor Reed (pp. 154 *f.*, 159 *ff.*) and Professor Halm (pp. 67 *ff.*, 80 *ff.*, 194, 218 *f.*) in terms that represent the very antithesis of the kind of treatment (such as that by Cannan, for example), which suggested that an unbridgeable gap existed between analysis of the forces determining the size of cash balances held relative to outlay, on the one hand, and analysis in terms of Fisherine "velocity," on the other. It is still more gratifying to observe Professor Halm's attempt (pp. 74 *ff.*, 202) to relate the concept of "liquidity preference" to the "cash balance approach" (and therefore to "velocity"), even if there are aspects of this attempt which could be improved upon from the standpoint of both articulation and precision. Yet neither writer, in the opinion of this reviewer, succeeds entirely in integrating into his formal framework those aspects of the so-called "*income* approach" which are concerned, not with the irrelevancies upon which Professor Halm touches briefly on pages 14 and 15 of his text, but with those realistic problems of mechanism and sequence that are involved in the study of the *generation and utilization of money income.*

In the case of Professor Reed, for example, one foresees some bitter struggles on the part of students to understand the precise relation to his own formal framework of his summary (pp. 447 *ff.*) of the so-called "Keynesian" and related theories of the generation and utilization of income: particularly since Professor Reed himself, who elsewhere (p. 158) recognizes that "money incomes . . . are influenced by the volume of currency in circulation and its rate of turnover," does not here provide even the link (itself one of considerable crudity) which is provided by the concept of "income velocity." Professor Halm, to be sure, does provide that crude link (pp. 77 *ff.*, 194); and he even undertakes (pp. 275 *ff.*) to relate it to the concept of the "multiplier" (or, more accurately, to *one* of the concepts of the "multiplier"). But his discussion of the concept of "income velocity" itself includes an attempt to relate it to the "cash balance approach" (pp. 81 *f.*) in a way that reflects too literal an acceptance of the less fortunate aspects of

the "Cambridge" treatment of this particular problem; and Professor Halm's discussion of the relation of "income velocity" to "the multiplier," while it is certainly superior to much that has been written on the subject, seems to this reviewer to be capable of improvements at more than one point.

The nature of these possible improvements should be clear to those who will be as much struck as was the present reviewer by the fact that nowhere in either Professor Halm's or Professor Reed's discussion of the problem of the generation and utilization of money income is explicit reference made to the work on this problem by R. G. Hawtrey.[7] For it is the reviewer's considered opinion that no part of the work of this most original (and still inadequately appreciated) spirit in contemporary monetary theory surpasses, or even equals, in constructive importance his work on the generation and utilization of money income. Not least of its merits (since we are here speaking of "integration" within the field of "monetary theory," in a narrower sense of the term) is the masterly way in which Hawtrey's treatment of the problem succeeded in integrating so many of the relevant analytical devices of monetary theory, as well as so much that had been done previously on the problem of the generation of money income. But it is no mini-

[7] It is particularly striking, for example (though it is also typical of current tendencies in the evaluation of the contributions of Mr. Hawtrey), that on the one occasion on which Professor Halm refers to the "different circulations" into which the total stock of cash balances may be said to be divided (p. 68), he refers to the Keynes of the *Treatise*, rather than to Hawtrey, despite the fact that Hawtrey's distinction between "consumers' balances" and "traders' balances," though it had predecessors in the respective treatments of Adam Smith, Tooke, Wagner, and Walras, acquired, in Hawtrey's own hands, a power and significance far greater than it had had in the hands of any earlier writer. It is equally striking that Professor Halm discusses the distinction in a context which makes no explicit reference to its importance for the study of the processes involved in the generation and utilization of money income. Similarly, when Professor Halm makes the otherwise welcome distinction (p. 78) between "income" and "sales proceeds" (*cf.* also pp. 91 *f.*, on the significance of "intermediate business transactions" as contrasted with "expenditures of net-income"), he makes no formal attempt to relate this distinction either to his distinction between the different types of cash balance (the "different circulations"), or to the Hawtreyan distinction between "consumers' income" (and outlay) and "traders' turnover." And finally, a careful consideration of Hawtrey's criticism (as in his *Capital and Employment*) of the identification by Keynes (and others) of what Professor Halm himself calls "the money value of annual output" with what Professor Halm calls "the annual money income of the economy" might not only have provided Professor Halm with further arguments for his rejection (pp. 91 *f.*) of this identification, but might also have made him somewhat more critical of his own simultaneous definition (p. 78), in the "income equation" $MV_y = P_yT_y$, of T_y as the "real national income per annum" and V_y as "the average number of times a unit of money *enters* (*or leaves*) the *cash balances of ultimate income recipients* during a certain period, say a year"; just as other aspects of Hawtrey's treatment might have made him more critical of his own simultaneous definition of "investment" as "the use of the means of production for the production of capital goods" (p. 189) and his statement that "the process of investing *consists in spending money*" (p. 221).

mization of the merits of the Hawtreyan treatment to suggest that it still left room, on the side both of analysis and algebraic formulation, for further "integration." It is precisely this further "integration"—which involves, in particular, the introduction of both clock-time period and "directional" subscripts into a series of "stream" equations of the general Fisherine form—that would show more clearly than is shown in either of the texts under review the relation of analysis such as the Hawtreyan not only to the "period analysis" to which both Professor Halm (pp. 204, 216, 276 *ff.*) and Professor Reed (pp. 148 *f.*, 447 *ff.*) make incidental reference, but also to the formal framework, represented by a "total transactions" equation of exchange, to which both authors acknowledge formal allegiance.

A further set of examples of the possibility of further "integration," even at the textbook level, is provided within the field to which Professor Halm, to judge by the implications of his Preface, undertakes to give particular attention: namely, that involving the further "integration" of "monetary" theory with certain sectors in "general" economic theory. It is to Professor Halm's credit that (with the possible exception of his reference on pages 14 and 15, already cited, to certain aspects of the so-called " 'Income Theory' of the value of money") he has generally avoided much of the bog of irrelevancies which has encumbered discussion of this problem in the past. It is still more to his credit that he has bravely attempted to introduce, at the textbook level, a discussion (pp. 48, 70 *f.*, 75, 255 *f.*, 300 *f.*, 305 *f.*, and especially chaps. 13 to 15, inclusive) of the monetary forces involved in the determination of the *rate of interest:* a discussion which should do much, not only to make clear the relevance for this problem of so much that has often been regarded in the past as beneath the notice of "general" economic theorists and suited only for the attention of sordid specialists in the field of "monetary theory," but also to make clear (*pace* the Keynesians) the continuing relevance of a considerable part of the theory of interest as developed in the literature on "general" economic theory. If, therefore, one ventures to suggest that the work of "integration" upon which Professor Halm rightly puts so much stress can be carried still further in significant and fruitful ways, this can hardly be regarded as an attempt to minimize the qualities of these parts of Professor Halm's text, which, despite a few lapses, are generally excellent.[8]

[8] One of these "lapses," in this reviewer's opinion, is represented by Professor Halm's none too happy references (pp. 181 *ff.*) to the relation of "waiting" to "full employment"; for the passages in question would seem to involve the arbitrary identification of "waiting" with a *reduction* of consumption, instead of its identification merely with a refraining from consuming the whole of one's income (contrast Professor Halm's own use of the term "saving" on pp. 263 and 299). Another of these "lapses" is represented by some characterizations by Professor Halm (pp. 197 *f.*, 214) of the substance of "classical"

With respect to the rate of interest, for example, there is no explicit suggestion, in Professor Halm's treatment, of the way in which a description of the *market determination* of the rate of interest can be easily incorporated into the general system of money flows of which a "total transactions" equation of the Fisherine type is a final summary. This is the more striking in view of the fact that Professor Halm himself makes use of one of the important steps in this description: namely, the simple translation of the "supply of and demand for loanable funds" —a concept that rightly occupies the central place in Professor Halm's treatment (pp. 9, 48, 183 *f.*, and especially chaps 14 and 15)—into the demand for and supply of "claims" (pp. 225 *ff.*), or securities that, according to Professor Halm himself elsewhere in his book (pp. 85, 90), are to be included in his *T*. For the further steps required ought to have followed logically from a consideration of the implications of the argument, by writers from Tooke to Hawtrey, with respect to the treatment of "securities" in a "money-flow" formulation; and the importance of these further steps follows from the fact that they enable one to see, with a clarity greater than that to be found even in Professor Halm's generally excellent treatment, the proper rôle to be assigned to the "demand for *money*" (including some of the connotations of the expression "liquidity preference") in the determination of the rate of interest (*cf.* Halm, pp. 202, 220 *ff.*), as well as the rôle to be assigned to "savings" which take the form of a change in the *direction* of money flows, *without* any necessary change in the demand for or supply of "money" (*cf.* Halm, pp. 197 *f.*).

The really impressive possibilities for further "integration" come, however, when one considers the full implications of Professor Halm's statement that "monetary problems can no longer be treated as being separate from the problems of *prices* and *production*" (p. vii). These implications carry one much further than the absurdly jejune suggestions of those who, themselves made belatedly aware of the possible effects of changes in the dimensions of aggregate money flows upon the level of output and employment, and unwilling to follow the example of both Professor Reed (pp. 150, 152 *f.*, 158) and Professor Halm (pp. vii, 20, 22 *f.*) in distinguishing sharply between the implications of "the quantity theory" and the implications properly attached to "stream" equations of the Fisherine type, have presumed to charge all users of these equations with an unawareness of the fact that the *output* and *employment* components of *T* are not necessarily constant. Since both of the authors of the texts under review are unrepentant users of the Fisherine equation as their formal framework, a sufficient answer to this absurd

doctrine on the relation of money to the rate of interest which seem to this reviewer to be anything but accurate.

charge is provided by the continued concern of Professor Halm (pp. vii, 8, 47 *f*., 85 *ff*., 116 *f*., 131, 173, 190 *ff*., and chaps. 17 to 20, inclusive) with the problem of the effect of monetary expansion and contraction upon the level of output and employment, as well as the incidental references to this crucial problem by Professor Reed (pp. 90, 155 *f*., 161, 220, 225, 348, 414, 424). An even better answer is provided by (1) considering what both Professor Halm (pp. 6 *f*., 9, 17 *ff*., 23, 48, 88 *ff*., 93 *ff*., 118 *ff*., 123 *ff*.) and Professor Reed (pp. 301, 303, 326 *f*., 394, 396 *ff*.) have to say with respect to the importance of the *structure* of *prices* (as well as the structure of output and available resources; *cf*. Halm, pp. 87 *ff*., 129, 190 *f*., 257 *ff*., 299 *ff*., 309 *ff*.) for precisely these changes in aggregate output and employment; and then (2) comparing discussion of this kind with the little, if anything (*cf*. the example cited on p. 310 n., of Professor Halm's text), that the Keynes of the *General Theory* (as opposed to the Keynes of the *Treatise*) has to say on the same subject.

But, vitally important as implications of this kind are in themselves, they really do little (again *pace* the Keynesians) to further the task of "integrating monetary and *general* economic theory." For, despite the absurd statements commonly made to the contrary, important contributions to the theory of the effect of monetary expansion and contraction upon aggregate output and the *structure* of output (the latter, again, being itself crucial for an understanding of the reasons for fluctuations in aggregate output) have for generations been made by writers who neither claimed to have accomplished, nor in fact succeeded in accomplishing, any significant "integration" as between the two bodies of theory.

When one thinks of "general" economic theory, one thinks of the two great bodies of "partial equilibrium analysis," on the one hand, of which the work of Cournot and Marshall stands as an imperishable monument and symbol, and, on the other, of "general equilibrium (or, much better, general *interdependence*) analysis," of which the work of Walras, equally imperishable, stands as a symbol that is at once countervailing and complementary. It would be entirely unfair to Professor Halm, in particular, to suggest that he nowhere evidences an awareness of the way in which each body of analysis is to be incorporated into a generalized description of the "money economy" in terms of an interconnected system of money flows.[9] But it is not unfair

[9] The implications of "*partial* equilibrium analysis," for example, are to be found in Professor Halm's reference to the substance of the analysis represented by particular demand schedules" (pp. 5, 89), even if he does not explicitly use the *term* "demand schedules" or refer explicitly to their property of "elasticity" (the only explicit uses of the term "elasticity of demand" appear in a discussion of certain aspects of the concept of "neutral money" [p. 127, n. 12] and in a discussion of the elasticity of demand "for the

to suggest that the ordinary student will hardly derive from a perusal of the relevant passages a clear understanding of the precise way in which the tools of *partial* equilibrium analysis in particular—demand curves, supply and cost curves, elasticities of demand and supply—are to be related to that system of realized flows of money and of objects sold for money of which, again, a "total transactions equation" of the Fisherine type is a final summary.[10] Yet the simple analytical devices required to establish this crucial relation are to be found, dramatically enough, in the writings of Cournot and Walras—the two great symbols of "particular equilibrium" and "general interdependence" analysis, respectively.[11] This reviewer is prepared to insist, upon

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products of the paying country" as a factor involved in the international "transfer problem" [p. 151]). The implications of "partial equilibrium analysis" appear also in Professor Halm's reference to supply and output curves (*cf.* especially pp. 85 *f.*, where the *term* "supply curves" is explicitly used), even if, again, no explicit use is made of the term "*elasticity* of supply." (The same comment applies to Professor Reed, who, however, unlike Professor Halm, does not refer explicitly to "supply *curves*." *Cf.*, for example, p. 161 of Professor Reed's text.) The implications of "general interdependence" analysis of the Walrasian type are to be found not only in references to the general phenomena of complementarity and substitution (Halm, p. 4; *cf.* also p. 4 of Professor Reed's text), but also, and much more importantly, in references to what amounts to the Walrasian picture of a "circular flow" (Halm, pp. 5 *ff.*).

[10] One of the reasons for such a student's difficulties, it may be suggested, will probably be traceable to the fact that, despite Professor Halm's simultaneous acceptance, commented upon above, of the importance of studying the price *structure*, and of the equation of exchange as an analytical tool, his exposition is hardly such as to make unequivocally clear to the student that an adequate appreciation of the implications of "*the* equation of exchange" requires an understanding of the relation of a "total transactions equation" to a "*system* of money flows"—that is, to a *system* of "partial" stream equations. The nearest approach to a mention of these possibilities, indeed, is represented by Professor Halm's use, on pp. 77 *ff.* (*cf.* also pp. 91 *f.*) of a "stream" equation of the "income" type, along with one of the "total transactions" type. *Cf.* especially, in this connection, p. 23 of Professor Halm's book, where, having argued, quite correctly, that "it is only through many single price-making processes that the monetary factors can influence the economy," he goes on to advance the misleading proposition that "the equation of exchange is incapable of expressing the changes in the structure of *relative* prices caused by monetary factors."

[11] The first of these analytical devices, found in both Cournot and Walras, establishes the relation between a particular demand (or supply) schedule and a realized act of money expenditure through expressions of the type $D = pq = p\,F(p)$, in which D represents the realized "effective ["monetary"] demand" of "monetary" theory for a particular commodity (*cf.* Halm, pp. 6 *f.*, 19), and $F(p)$ involves the concept of "market demand" (or "market supply") as it appears in the familiar demand (or supply) schedules of "general" economic theory: that is, as "the amount of any given good which buyers [or sellers] stand ready to purchase [or sell] at a particular price" (*cf.* Halm, pp. 5 and 89). The second group of devices, the implications of which are likewise to be found in both Cournot and Walras, establishes the relation between these discrete acts of money expenditure and the *flow* of money expenditure *in time.* It is to be noted that Professor Halm, in repeating (p. 174) the familiar proposition that "prices, as explained in static economic theory, refer to a point of time," repeats it, as do the authors he quotes, in a context (namely, that of the relation of *interest* theory to the general theory of prices)

the basis of his own experience, that these analytical devices can be taught to "ordinary" undergraduates at a frankly textbook level with rather greater ease than is likely to be the case with much of the material which Professor Halm has incorporated into his excellent text.

To implied "criticism" of this kind (though the reviewer, in all sincerity, does not intend it to be regarded as "criticism," which should ask first of all how well a given author has performed the particular task *which he set himself*), both Professor Halm and Professor Reed should have a ready answer: "If you think you can do a better job on the thing you want to do than we have done on the things we wanted to do, go ahead and try." This would be not only a ready answer; it would also be a fair answer. Any colleagues of Professors Reed and Halm who choose to take up the challenge will find their work cut out for them.

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in which it is of very doubtful relevance in itself; whereas, like these other authors, Professor Halm makes no mention, at this point, of the relevance of the Walrasian concept of a "*circular flow*" for the establishment of the relation between (1) the discrete pricing situations dealt with by the weapons of "partial equilibrium" analysis, on the one hand, and, on the other, (2) both the concepts of realized interdependence *in time* and the further analytical weapons at our disposal (including so-called "period analysis") for the tracing of time-processes in addition to those processes characteristic of a "system" "in equilibrium."

THE THEORY OF THE FIRM IN THE LAST TEN YEARS

By KENNETH E. BOULDING

It is probable that when future historians of economic thought look back over this century, the thirties will appear as an era of rapid development in economic theory. Not only has there been unusual activity in monetary theory, but extensive transformations have also been made in the basic theory of value. The outstanding publications in this field are, of course, Joan Robinson's *Theory of Imperfect Competition* and Chamberlin's *Theory of Monopolistic Competition,* the first produced in Cambridge, England, and the second in Cambridge, Massachusetts. These volumes mark the explicit recognition of the theory of the firm as an integral division of economic analysis upon which rests the whole fabric of equilibrium theory. General equilibrium is nothing more than the problem of the interaction of individual economic organisms, under various conditions and assumptions; as a necessary preliminary to its solution, an adequate theory of the individual organism itself is necessary. This consists of two main parts: first, an account of the circumstance, or environment, facing an economic organism, described in individual demand curves, purchase curves, expectations, and so on, together with a "principle of maximization," a criterion by which to judge the various possible actions of the organism in order to select the "best." Second, from the principles discovered in the first part of the theory, a technique must be devised to describe the *reactions* of an organism to changes in its environment: how, for instance, a change in the demand for its product will affect its sales.

The "Cambridge Theory"—if so we may describe the essentially similar[1] doctrines of Mrs. Robinson and Professor Chamberlin—made one important step forward in the techniques of analysis, *i.e.,* the use of

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[1] Probably neither Mrs. Robinson nor Professor Chamberlin would agree that their doctrines are essentially similar: indeed, in regard to the theory of the "industry" and of general equilibrium there are significant divergences between them. In respect to their theory of the firm *per se,* however, there is little difference between them. Compare Kaldor, "Market Imperfection and Excess Capacity," *Economica* (1935), p. 33: Joan Robinson, "What Is Perfect Competition?" *Quart. Jour. of Econ.* (1934-35), p. 104: E. H. Chamberlin, "Monopolistic or Imperfect Competition," *Quart. Jour. of Econ.* (1936-37), p. 557.

the marginal revenue curve, and one very important advance in generality in showing clearly that the theory of the firm under perfect competition was merely a special case of the theory of the firm under monopoly, worked out long before but without very fruitful techniques, by Cournot and Marshall. The Cambridge Theory has been of great importance in simplifying the exposition of economic theory, and it is in the field of elementary exposition that these doctrines have been of most value. Comparing the lucidity of Meyer's *Elements of Modern Economics,* for instance, with any text published in the pre-marginal revenue era will illustrate the point. The student of today, if he is inclined to crab at the geometry with which he is usually presented in his elementary course, should take a look at Marshall's fearsome "nests of rectangular hyperbola" or at Cournot's even more repulsive calculus, and thank his stars that he was not born ten years earlier.

Nevertheless, for all the importance of this contribution, neither Professor Chamberlin nor Mrs. Robinson added very much to the theory of the firm itself, as outlined by Cournot or by Marshall in his chapter on monopoly. Cournot's assumptions are unchanged: that the total cost and total revenue vary continuously with output, and that the "best" position of the firm is that in which the net revenue, the difference between total revenue and total cost, is a maximum. The "marginal cost equals marginal revenue" condition, on the one hand, and the analogous "marginal value productivity equals price of factor" condition, on the other, are both merely convenient expressions of the maximization of net revenue. The firm is conceived either as an organism receiving a constant flow of revenue, and disbursing a constant flow of costs, or as an instantaneous enterprise conceived and liquidated within so short a period of time as to make the cost and revenue items virtually simultaneous.

The weakness of this Cambridge Theory was that it completely neglected the time element in enterprise, and consequently worked with a concept of the firm so far from reality that it cannot be considered more than a rough—though useful—first approximation. It was therefore forced to abstract from an essential feature of enterprise—uncertainty; it made no contribution to capital theory, and it invariably broke down when any attempt was made to account for *profits*. Because of its lack of dynamic character, it also failed to give any satisfactory account of interfirm relationships, for instance, in duopoly, where anticipations form an essential part of the data and where the position of equilibrium is determined by the *path in time* which is taken in reaching it.

Most of the work of the past ten years has been directed toward

building up a more accurate picture of the nature and reactions of a firm, particularly expressed in explicit time relationships. We now conceive the firm not as the recipient of a continuous flow of revenues and costs, but as an *account,* consisting of a large number of different input and output items, each with a specific date attached, and strung out in time like washing on a line. Under these circumstances we can no longer assume that the net revenue is to be maximized, for the entrepreneur might prefer a smaller net revenue that accrued earlier to a larger net revenue that accrued later.[2] The problem, "What does the entrepeneur maximize?" therefore, becomes an acute one.

Most of the writers[3] who have tackled this question assume that the entrepreneur wishes to maximize the *discounted* net revenue of his enterprise; *i.e.,* the difference between the present value of all future receipts and the present value of all future outlays. The discounting presumably is to be done for each period of time at that rate of interest which represents the alternative cost of employing capital in the occupation in question; that is, at the rate which the entrepreneur could obtain in other investments. This assumption is implicit, of course, in Taussig's *Wages and Capital,* as in any theory equating the price of a factor of production to its *discounted* marginal product. The conditions of maximization, corresponding to the "marginal cost equals marginal revenue" condition of the Cambridge Theory, are that for each variable the *discounted* marginal cost must be equal to the *discounted* marginal revenue. The "discounted marginal product" theory of wages is of course a special case of the above condition of maximization. It should be noticed that this refinement of the Cambridge Theory is not as revolutionary as might at first sight appear. Indeed, if we define marginal cost to mean the increase in total cost which results from a unit change in output, and define total cost (as we must) to include interest and "normal profit" charges, the marginal cost is seen to be the same as the "compounded marginal outlays"; *i.e.,* the sum of previous outlays, plus interest and profit accruals. If, then, the revenues are assumed to occur at a single date, the Cambridge criterion and the "discounted net receipts" criterion give the same result. This is generally true if the time relationships of the various inputs and outputs are not variable, as in many instances is the case. If the time relationship between input

[2] This fact would seem to vitiate Gerhard Tintner's otherwise interesting article on "Monopoly Over Time" in *Econometrica,* Vol. 5 (1937), pp. 160-70.

[3] H. Hotelling, "The Economics of Exhaustible Resources," *Jour. of Pol. Econ.* (April, 1931); Dr. J. R. Hicks, in "Wages and Interest, the Dynamic Problem," *Econ. Jour.* (Sept., 1935); also in *Value and Capital* (Oxford, 1939); A. G. Hart, "Anticipations, Business Planning, and the Cycle," *Quart. Jour. of Econ.* (Feb., 1937); P. A. Samuelson, "Some Aspects of the Pure Theory of Capital," *Quart. Jour. of Econ.* (Aug., 1937).

and output is a variable of the problem, as, for instance, in the classic example of the maturing of wines or of the growth of trees, the Cambridge Theory breaks down.

Another suggestion in regard to the maximization problem I made myself:[4] that the entrepreneur should maximize the internal rate of return on his investment, or the "rate of profit" which the investment actually earns. This gives the same criterion of maximization as the "discounted net receipts" formula, with the exception that the rate of interest used in discounting in the first case is the "internal" rate and in the second is the "alternative" rate, or rather scheme of rates, which is regarded as normal. If the economic rent of an enterprise is included as one of its outlays, then even this distinction disappears, for if we discount (or compound) any series of net receipts *including* economic rent at a rate equal to the "alternative rate," the result is the same as if we had discounted (or compounded) the same series—not including economic rent—at the internal rate. The criterion of maximizing the internal rate of return is thus seen to be a special case of the "discounted net receipts" criterion.

The "discounted net receipts" criterion in its turn has not proved altogether satisfactory; for, although it takes into account the time relations of inputs and outputs, it abstracts from the most essential feature of enterprise—its uncertainty. Every decision must be made in the expectation of certain future events, and the expectations, by the very fact that they refer to the future, are uncertain. The problem of relating this uncertainty to the conduct of enterprise is therefore a major one. Indeed, in general theory, "profit" is usually regarded as the reward of "risk-bearing"—or rather, to use Professor Knight's more exact term, "uncertainty-bearing," an uncertainty being an uninsurable risk, and a necessary and characteristic feature of all enterprise.

One method of surmounting this difficulty is to express an expected future magnitude—receipt or expense—not as a single figure but as a probability distribution, showing the probability of each of a series of possible magnitudes for the variable in question. Thus a manufacturer may think that there is a 50 per cent chance of his receipts next month being $10,000, a 20 per cent chance of their being either $9,000 or $11,000, a 4 per cent chance of their being $8,000, or $12,000, and so on. This method of expressing the probability of future magnitudes has been used by many authors: Irving Fisher used it as far back as 1906.[5] and it has entered into almost all discussions of the topic in the past ten years. As a first approximation, the "expected value" of the variable

[4] K. E. Boulding, "The Theory of a Single Investment," *Quart. Jour. of Econ.*, Vol. 49, pp. 475-94.

[5] Irving Fisher, *Capital and Interest*, Appendix to chap. XVI.

in question, *i.e.*, the average of all possible values, each weighted by its probability, may be substituted for the probability distribution, and then treated as if it had 100 per cent probability, thus eliminating uncertainty altogether. This procedure, however, is dangerous, for, in effect, it abstracts once more from the fact that differing degrees of uncertainty may involve various choices, and consequently may draw attention away from the most essential questions posed by the existence of uncertainty. Professors Marschak and Makower, in their remarkably interesting article on "Assets, Prices, and Monetary Theory,"[6] offer a suggestion that there are at least three aspects of the probability distribution of a net receipts item to take into account: *lucrativity*, expressed by the expected value of the item; *safety*, measured by the smallness of the dispersion of the probability distribution; and *asymmetry*, measured by the skewness of the distribution, important in the case of "long odds enthusiasts" who are more eager to take a small chance of a large gain rather than a mathematically equivalent large chance of a small gain. These authors suggest also that uncertainty equivalents may be expressed by a process analogous to discounting; that is to say, we should be able to set up a system of preferences of any individual, expressing the equivalence, in terms of "utility" or indifference, of various sums of various dates, degrees of safety, skewness, etc. The process of discounting in the ordinary sense is that of equating in "value" different sums because of their difference of time position. In other words, if the rate of interest is 5 per cent per annum, we say that $100 now is equivalent to $105 in one year's time, because if an individual can earn 5 per cent per annum on his money he does not care whether he has $100 now or $105 next year, provided that his demands do not alter and that the sums in question are absolutely certain. If, however, the sums are not certain, we can still say of a given individual that he does not care whether he has $100 now or, say, the probability of getting various sums next year, the probability distribution having a known expected value, dispersion, and skewness. The $100 this year is then the "discounted equivalent" of the whole probability distribution of next year.

An apparent difficulty of this line of analysis is that it takes away the *objectivity* of the discounting process. As long as we regard the external rate of interest as the controlling factor in the discounting process, it appears to be quite mechanical and objective. If we include the elements of time and uncertainty preference immediately there is a different rate of discounting for each individual, and the objective rate of interest disappears. This, however, is a marked step toward reality; for "the rate of interest" that figures so largely in economic

[6] H. Makower and J. Marshak, *Economica* (1938), pp. 261-88.

discussion is an illusion created by the fact that some future events—*e.g.*, the payment of obligations under a government bond—are so probable that we regard them as absolutely certain. Consequently, the price of these obligations in the market "determines" a rate of interest which is as objective as the fulfilment of the obligations is certain. But in strict theory we must recognize that all future events are uncertain—*i.e.*, have less than 100 per cent probability—and that consequently what is determined in the capital market is not a rate of interest, but the price, or present value, of more or less uncertain future payments. The rate of interest to which each price corresponds is a purely subjective matter, depending on the expectations and on the preferences of the individual concerned. Indeed, these expectations involve preferences so complex that we will probably have to abandon the simple concept of interest as a "rate of time transference," and recognize it for the multidimensional complex that it is.

Mr. Kalecki has developed an interesting special case of these general principles in his "Principle of Increasing Risk."[7] He points out that one of the limitations preventing the indefinite expansion of an enterprise, even under conditions where there are no other limiting conditions, such as imperfect markets or decreasing returns, is the decline in the proportion of the total investment represented by the entrepreneur's own capital, and the corresponding increase in the proportion of borrowed capital. The smaller the proportion of the total investment represented by the entrepreneur's equity, the greater will be the proportionate loss of that equity for a given proportionate loss of the total investment. Thus, if the total investment is $1,000,000, of which $500,000 is the entrepreneur's equity and $500,000 is borrowed, a 10 per cent loss of the total investment represents a 20 per cent loss in the entrepreneur's equity. If, however, the entrepreneur's equity in this case were only $100,000, a 10 per cent loss on the total investment would wipe out the entrepreneur's equity completely. Consequently, the more an enterpreneur borrows in order to expand his business, the greater the risk of loss of his own capital, or the greater the dispersion of the probability distributions of the expected receipts from the entrepreneur's own capital. An entrepreneur will cease to expand at the point where he reckons the gain in "lucrativity" to be just balanced by the loss in "safety," to use the language of Marschak and Makower.

Another interesting approach in the direction of quantifying these relationships is that of Mr. R. H. Coase,[8] who develops an idea of Pareto in showing the most preferred point graphically by means of indifference curves relating income and probability, the assumption

[7] M. Kalecki, *Essays in the Theory of Economic Fluctuations*, pp. 95-106.

[8] R. H. Coase, "Some Notes on Monopoly Price," *Rev. of Econ. Stud.*, Vol. 5, p. 17.

being that an entrepreneur will not care whether he has a large income of low probability or a small income of high probability. This approach by means of indifference curves is worthy of more attention; Mr. Coase does not solve all the problems he raises, and he seems to have the probability curves drawn rather inaccurately, but the idea is a most valuable one and may prove useful in future developments. It has the great merit that it assimilates the theory of the firm still more closely to the theory of the consumer, recognizing that the conduct of enterprise and the conduct of consumption are merely cases of one general principle of choice.

For all these fruitful suggestions, it cannot be said that this chapter in the development of economic thought is closed. Not only do we wait for a method of analysis, perhaps a graphical device like the marginal revenue curve, which will free the theory of uncertainty from its present formality and enable us to reach more conclusions than now seems possible; we also need much more work on the nature of uncertainty and of profit. It can be argued that all argument in terms of probability distributions is concerned only with *risk,* in Professor Knight's terminology, and not with uncertainty at all. If we know the probability of a future event we can insure against it, and hence eliminate the risk altogether. An event is not uncertain unless we know that it does not have 100 per cent probability of occurrence, and we do *not* know the actual probability of occurrence. Thus, there are three degrees of knowledge: certainty, which is 100 per cent probability: risk, which is a known probability; and uncertainty, which is an unknown probability. Enterprise concerns itself largely with the last of these three, and the theory of probability does not seem to have been extended to this case.

The uncertain position of the theory of uncertainty is reflected in the equally unsatisfactory nature of the theory of profits. This lies rather beyond the scope of the theory of the firm, but we may notice that the part played by profits in the various forms of competition is still much open to doubt. One of the most attractive conclusions of the theory of monopolistic competition (to be attributed principally to Chamberlin) is that the end result of monopolistic competition is not to permit profits above normal, but to make the number of firms in an industry larger than would be the case under perfect competition. The monopolistic element works itself out not in permitting higher profits to the marginal firm, but in permitting more firms to make at least normal profits. This conclusion has been attacked by Mr. Kaldor[9] and Mr. Triffin,[10] both of whom really wish to abolish the concept of an

[9] M. N. Kaldor, "Market Imperfection and Excess Capacity," *Economica* (1935), p. 33.

[10] Robert Triffin, *Monopolistic Competition and General Equilibrium Theory* (Harvard, 1940).

"industry" altogether on the grounds that it is impossible to fix boundaries between one industry and another. Hence, the concept of a "marginal firm" also seems to disappear, except in perfect competition, the profits of each firm being determined with reference to the possibility of producing substitutes for its product. But this means virtually the abandonment of the theory of imperfect competition. We seem almost to be back at Marshall again, with a fairly clear theory of monopoly, a fairly clear theory of perfect competition, and a twilit region in between where our theory gives us few clear conclusions, and where, unfortunately, most of the economic world resides. All this discussion reflects the generally unsatisfactory state of the theory of profits: even an authority like Professor Hicks finds it an easily exhaustible mine of useful results.[11]

In connection with the theory of uncertainty the study of Dr. Albert G. Hart[12] deserves particular mention, as constituting perhaps the most exhaustive study to date of these aspects of the theory of the film. Dr. Hart lays particular stress on the phenomenon of capital *rationing*—a limiting factor in the expansion of an enterprise of great importance in present circumstances. He also points out the importance of "flexibility" of plan, that is, the element in present decisions which permits of future adjustments. For "flexibility" of assets a firm may sacrifice lucrativity up to a certain point.

The theory of the reactions of a firm naturally lags behind the theory of the principles which govern a firm. Nevertheless, there have been some important contributions in recent years, mostly in the direction of a more realistic account of the *variables* with which a firm is likely to be concerned and of the functional relationships between these variables.

Progress has been made, for instance, in the description of the production function, which expresses the necessary relationships between quantities of input and output. The graphic representation of the production function as a three-dimensional surface, relating the quantities of two inputs and one output, has been valuable in clarifying the nature of input-output relationships. Especially valuable has been the use of contour-lines of this three-dimensional figure or "isoquants," showing on a plane graph whose axes represent quantities of two inputs those combinations of input-quantities which yield a given output. The "isoquants" are at the same time "revenue contours," for any two combinations of inputs which yield the same output will also yield the same

[11] J. S. Hicks, "The Theory of Uncertainty and Profit," *Economica* (May, 1931), p. 170-89.

[12] A. G. Hart, "Anticipations, Uncertainty, and Dynamic Planning," *Jour. of Bus., Univ. Chicago,* spec. suppl.

revenue. On the same figure "cost contours" or "isocosts" can be drawn, showing these combinations of inputs involving the same total expense. The point at which an isoquant is touched by a cost contour represents a "least cost combination" of inputs, or the cheapest way of producing the output given by the isoquant. The locus of all such points has been called the "expansion path" by Carlson, following Frisch.

The effect of a change in price of one input can easily be analyzed by the above tools. If the price of Input A rises, while that of Input B remains the same, the result is to steepen the isocost lines, making them more nearly parallel to the B axis, as a larger amount of B is now equal in total cost to a unit of A. The expansion path is therefore shifted toward the B axis, and the cheaper B is substituted for the more expensive A. This is known as the "substitution effect." There is also a "scale effect"—a contraction in scale necessitated because the rise in the price of input has raised the marginal cost at each output. At the old optimum output the marginal cost is now greater than the marginal revenue. When the price of Input A rises, the substitution effect operates to reduce the purchase of A and increases that of B. The scale effect operates to reduce purchases of both inputs. If the scale effect is great enough it may counterbalance the substitution effect in the case of B and cause a net decline in the purchase of B, even though relative to A its price has risen.

This type of analysis is exactly analogous to the analysis of the reactions of a consumer by means of indifference curves. Indeed, a consumer is merely a "firm" whose product is "utility." The indifference curves are analogous to the isoquants, or product contours, the only difference being that they cannot be assigned definite quantities of utility. The utility surface, whose contours form the system of indifference curves, is a "mountain" whose shape we theoretically know, but whose height at any point probably cannot be known; by contrast, we can assume that both shape and height of the production surface are known. The "substitution effect" and the "scale effect" are likewise known in consumption theory, where the scale effect is usually called the "income effect." Thus, a rise in the price of a single object of consumption will have a substitution effect tending to reduce the consumption of that object as cheaper alternatives are substituted for it. There will also be an "income effect" tending to reduce all consumption, as the higher price makes the consumer poorer. The effect of a given rise in price, therefore—*i.e.*, the elasticity of demand—depends first on the substitutability of the commodity concerned, and, secondly, on its importance in the total expenditure. This is true either of a consumption good or of a factor of production.

This unified theory of production and consumption is itself the prod-

uct of many hands. It was first developed in the theory of consumption: the concept of indifference curves goes back to Pareto,[13] the analysis in terms of substitution and income effects was made, though in a highly mathematical form, by Slutsky,[14] and interpreted by Hicks and Allen[15] in a celebrated article. The applications to the theory of production may be traced back as far as Wicksell, and to Wicksteed, who drew attention to the essential symmetry of the classical law of diminishing returns. The use of isoquants to describe the production function did not develop to any great extent until the thirties. Frisch[16] Schneider,[17] and Hicks[18] make use of them. Carlson[19] uses them extensively, and in my *Economic Analysis*[20] I have extended this type of analysis to cover even the theory of selling cost, relegating the once predominant theory of consumption to its place as a special case of the general theory of an economic organism.

It is not difficult to extend this type of analysis to cover the case of joint products (*cf.* Carlson[21]). What is more important, it can be extended to cover the case of an enterprise in time. The great defect of the Cambridge Theory was that it took no account of the position of inputs and outputs in *time*. With the aid of the "substitution effect" and "income effect" concepts this difficult problem can be tackled. It is merely necessary to assume that time position, as well as kind or quality, separates one factor from another. Thus, "this week's labor" is a different factor from "next week's labor." Once this is recognized, the effects of expectations can be analyzed. Thus, suppose that an entrepreneur expects that labor will be cheaper next year. This expectation will have two general effects: first, next year's labor will be substituted in some degree, not only for other factors of next year, but also for this year's labor: *i.e.*, the purchase of labor will be postponed. Secondly, there may be a scale effect—in this case a general increase in scale —which will further tend to expand the purchases of next year's labor. In regard to the purchases of this year's labor, however, the substitution and the scale effects would be in opposite directions, the substitution

[13] V. Pareto, *Manuale di Economia Politica,* cap. III, sect. 54.

[14] E. Slutsky, "Sulla teoria del bilancio del consumatore," *Giornale di Economisti* (July, 1915).

[15] J. R. Hicks and R. D. G. Allen, "A Reconsideration of the Theory of Value," *Economica* (1934).

[16] R. Frisch, "Tekniske og Økonomiske Producktivitetlover" (mimeograph lectures, Oslo University).

[17] E. Schneider, *Theorie der Produktion* (1934), p. 4.

[18] J. R. Hicks, *Value and Capital* (1939), p. 91.

[19] S. Carlson, *A Study in the Pure Theory of Production* (1939), p. 19.

[20] K. E. Boulding, *Economic Analysis* (1941), chaps. 23 and 26.

[21] Carlson, *op. cit.*, chap. 5.

effect tending to diminish, the scale effect tending to augment the purchases. The net effect will depend on their relative magnitudes: if next year's labor can easily be substituted for this year's labor, that is, if the purchase of labor can easily be postponed, the result of an anticipated fall in wages will probably be a decline in present employment. If, however, this year's and next year's labor are not easily substitutable, and if the scale effect is considerable, the expansion of scale may begin this year and the expectation of a fall in wages will cause a rise in this year's employment.[22]

Closely related to the theory of the individual firm is the theory of duopoly, or oligopoly—*i.e.*, the theory of the interactions of two or more firms operating under the condition that each firm in drawing up its own policy considers in some way the reactions of other firms, and the consequent repercussions on itself of any policy it may pursue. The theory resolves itself into a comparative study of the results obtained when various assumptions are made regarding the expectations of the two firms and the nature of the repercussions. The theory in one form is as old as Cournot; Chamberlin[23] and Stackelberg[24] have given more general treatments. No very far-reaching developments seem to have been made in this part of theory in the last few years, though the work of Smithies and Savage[25] is worth mention as providing a dynamic approach in terms of the path to equilibrium. The problem has so many degrees of freedom that it is not easily tackled with existing tools.

In sum, we see that considerable advance has been made in the past few years toward a more realistic and fruitful theory of the firm. Nevertheless, much remains to be done. The picture of the firm on which much of our analysis is built is crude in the extreme, and in spite of recent refinements there remains a vast gap between the elegant curves of the economist and the daily problems of a flesh-and-blood executive. Economics describes as a science what business practices as an art, and much of the theory of the firm is an attempt to describe explicitly principles which a business man follows unconsciously. But economists have undoubtedly neglected the most difficult problem of business: how to make judgments when essential data are missing. The theoretical economist blithely assumes that anything that ought to be known can be known. Cost and revenue curves are data which must be known if profits are to be accurately maximized: ergo, says the economist, as profits are to be maximized we must assume cost and

[22] Carlson, *op. cit.*, chap. 6; and Hicks, *op. cit.*, chap. 15.

[23] E. H. Chamberlin, *The Theory of Monopolistic Competition*, chap. 3.

[24] H. von Stackelberg, *Marktform und Gleichgewicht* (Wien, 1934).

[25] A. Smithies and L. J. Savage, "A Dynamic Problem in Duopoly," *Econometrica*, Vol. 8 (1940), p. 130.

revenue curves to be known, although somewhat vaguely. Recently, however, the disturbing notion has been gaining ground that, as the business man cannot know the data on which to maximize profits, the very principle of maximizing profits is a false one. Hicks has suggested that a quiet life may be the most desired fruit of monopoly, and a good deal of evidence is accumulating to show that except in times of abnormal instability many, if not most business men, are content to follow rules of thumb in their price and sales policy, without bothering too much about whether a little adjustment here or there would not yield them a larger profit. Thus the studies of the Oxford economists[26] revealed the fact that many firms fix prices according to a more or less conventional "full cost" figure (average total cost, including profit) and are very loathe to change prices to meet changed conditions. In part, as R. L. Hall and C. J. Hitch[27] have shown, this behavior may not be inconsistent with a policy of maximizing profits, particularly in oliogopolistic conditions where there may be discontinuities in the firm's individual demand curve. It may also in part be due to a strong tendency for people untrained in functional thinking to regard the "cost of production" as something absolute and constant, a tendency which is sometimes expressed in legislative attempts to "fix prices according to cost of production."

It is probable that we are entering on a period when the main contributions to the theory of the firm will spring out of econometric investigations. The studies already made on statistical cost curves[28] have borne some fruit. Nevertheless, a great deal remains to be done in the investigation of actual decisions made by business men and their relation to the environment which surrounds these decisions. It is surprising that more has not been done on these lines in this country, where the art of asking pertinent and impertinent questions has perhaps developed most fully. The Oxford inquiry, for all the interest of its results, shows marks of the gentleman-amateur. One would like to see one of our high-powered fact-factories, armed with modern statistical equipment, a staff of inquisitive ex-social workers, and a grain or two of common sense, set off in pursuit of the elusive policy-maker and track down the minutest detail of his thoughts and actions. The results might be surprising, and might necessitate the recasting of a good deal of our analytical machinery.

[26] *Oxford Economic Papers:* Oct., 1938; May, 1939; and Feb., 1940.

[27] R. J. Hall and C. J. Hitch, "Price Theory and Business Behaviour," *Oxford Economic Papers,* May, 1939, p. 12.

[28] H. Staehle, "The Measurement of Statistical Cost Functions: An Appraisal of Some Recent Contributions," *Am. Econ. Rev.,* Vol. XXXII (June, 1942), pp. 321-33.

THE EXCHANGE EQUALIZATION ACCOUNT OF GREAT BRITAIN, 1932-1939: EXCHANGE OPERATIONS

By LOWELL M. PUMPHREY

This article attempts to bring out certain salient facts about the experience of the Exchange Equalization Account of Great Britain.[1] The account was the first of six major stabilization funds that operated in Great Britain, the United States, Belgium, France, the Netherlands, and Switzerland during the years immediately preceding the outbreak of the present war.

In their brief era, the funds enjoyed the distinction of arousing the intense curiosity of financial and economic circles throughout the world by reason of the secrecy that shrouded all their operations. They were, however, among the first casualties of the war. With their transformation into historical phenomena, interest in the funds has rapidly declined. The secrecy with which the funds were operated now threatens to thrust into obscurity the lessons they should have for students of monetary management. The following examination of the policies and techniques of the most active and long-lived of the funds is undertaken in the hope that it will throw light on the more significant implications of the stabilization fund mechanism for the theory and practice of monetary management.

The British account officially began operations on June 24, 1932, and continued to function as a *stabilization fund proper* until September 4, 1939, when the wartime exchange control came into effect. Mr. Neville Chamberlain, then Chancellor of the Exchequer, stated in 1933 that the aims of the account were to "smooth out the variations in exchange caused by three sets of phenomena: (1) the seasonal fluctuations; (2) the operations of speculators, which increase those seasonal fluctuations, and other fluctuations, too; and (3) this special flight of capital from other countries for the sake of finding a safer place to stop for a time."[2] This statement corresponds to the generally accepted view of the purpose of the stabilization fund mechanism. A study of the policies of the account, therefore, calls for an evalua-

EDITOR'S NOTE: Before joining the Army in November, 1941, the author was with the Federal Reserve Bank of New York.

[1] This article is based on material accumulated while the writer was a Fellow of the Social Science Research Council, 1938-1939, and The Brookings Institution, 1939-1940.

[2] *Hansard*, New Series, Vol. 277, May 4, 1933, Col. 1038.

tion of the validity of Mr. Chamberlain's statement as a realistic summation of the aims of the account.

Establishment of the Account. After Britain left the gold standard on September 21, 1931, the exchange value of sterling first declined sharply, then staged a partial recovery during the first three months of 1932 under the pressure of world-wide speculative purchases of sterling. In April, 1932, the British treasury, fearful that this speculative pressure would drive the sterling price of gold back to its pre-September, 1931, parity, decided that a new monetary device was required to halt the further appreciation of the foreign exchange value of sterling. Accordingly, the Finance act of 1932 included a provision for the establishment of an Exchange Equalization Account, under the direct control of the British treasury. This account was granted the power to issue up to approximately 167 million pounds of treasury bills, to be used in the purchase of gold and foreign exchange.

The establishment, in June, 1932, of the account with its statutory right of intervention on a large scale in the London exchange market meant that the British treasury received broad and indefinite powers over the external value of sterling. Despite the fact that the treasury severely restricted the freedom of the London financial market and achieved large measure of control over interest rates in the following years, it refrained until the very outbreak of the present war from interfering with spot exchange, gold, and commodity transfers, and thus deliberately refused to take the steps that would have meant the introduction of a *de facto* system of exchange control in Great Britain.

Since the Exchange Equalization Account remained throughout its existence a non-exchange-control device, one cannot rule out on *a priori* grounds the possibility that the treasury officials in charge of the account sincerely attempted to follow the equilibrium policy attributed to them by Mr. Chamberlain. As a corollary of the above, it is clearly necessary to study the actual operations of the account in order to arrive at any independent judgments about the policies of the account.

Methods of Operations of the Account. The account operated in three media: the London exchange, gold, and money markets. Its operations were carried out by a technical staff at the Bank of England, which acted as agent for the account.[3] The staff at the bank, operating under the instructions of the treasury officials, devised elaborate techniques for intervening in the London exchange market under an appropriate cloak of secrecy. At times they chose to operate under as complete secrecy as they could achieve, whereas on other occasions they de-

[3] Throughout its existence the account was identified with the bank, in the minds of men in the City, and the prestige of the bank in financial circles was thus attached to the account from the beginning.

liberately operated in full view of the market.[4] The account's gold operations arose directly out of its exchange operations. The managers of the account frequently found it necessary to intervene directly, by supplying or offering gold through the regular bullion agent of the bank in the London gold market in order to keep the sterling price of gold in line with the foreign exchange value of sterling.[5] These gold operations, however, being variants of the account's exchange operations, have no separate policy implications. The account's treasury bill operations were carried out along with the regular open market treasury bill operations of the bank. In theory these operations should have been straightforward, with automatic sales and purchases of treasury bills as counterparts to the account's purchases and sales of foreign exchange.[6] In practice, however, the account had to resort to complex interdepartmental transfers of "tap" bills in order to prevent the weekly variations in the volume of the "tender," *i.e.*, open-market, issue of treasury bills from serving as an automatic index to the volume of the account's exchange operations.[7]

[4] When the account wanted to conceal the fact that it was operating in the exchanges, it would make use of a number of banks, placing selling orders for exchange through one set of banks and placing buying orders for a greater or lesser amount of exchange, at the same time or later, through another group of banks.

In the normal course of its exchange operations, however, the account was chiefly interested in keeping the exchange market from being aware of the *extent,* as contrasted with the *fact,* of intervention. In these cases, the account relied on one or more of the great joint-stock banks, acting under its instructions, to carry out the requisite sales or purchases of foreign exchanges. Although the London exchange dealers and brokers developed an unusual capacity for sensing when the account was operating through the joint-stock banks, the market was in no position to estimate the *volume* of official operations undertaken by the banks.

When the account wanted the entire exchange market to be aware that it was actively and vigorously dealing in the exchanges, it would place orders to buy (or sell) foreign exchange with various exchange brokers in the city. The brokers would immediately communicate with all the exchange dealers and inform them that the "Control" (the colloquial name for the account) was offering (or buying), *e.g.*, dollars at 4.92. (The account never bought or sold foreign exchange in its own name; instead, it used the name of the Bank of England. The market, of course, was aware that the account was the principal in the transactions.)

[5] In its later years, the account frequently utilized the London gold market as an indirect means of supplying dollar exchange. It would fix the sterling price of gold at a level at which it was profitable for certain bullion arbitrage firms to purchase the gold and ship it to New York. These firms sold dollar exchange against their gold shipments.

[6] An examination of the money market operations of the account is beyond the scope of this article because these operations, although highly significant from the point of view of monetary theory, were the automatic by-products of, and without policy implications for, the exchange operations of the account.

[7] A number of estimates of the gold holdings of the Exchange Equalization Account, based on studies of the variations in the tender and tap issue of treasury bills and the funding operations of the treasury during the 1932-1939 period, have been prepared. The best of the estimates in print are those of Mr. F. W. Paish, in *Economica* (1935, 1936, 1937, and 1939). Unfortunately, the figures on the variations in the gold holdings of the account,

A close study of the technique of operations of the account at given periods and the current market reactions to those operations affords the best available clues as to the probable *short-run* aims of the account.[8] Since the authorities in charge of the British account chose to conceal their long-run aims, the student has to base his interpretation of those aims largely on the evidence that exists about the short-run policies of the account. In the following pages, such an attempt to find a common denominator of policy for the succession of day-to-day decisions of the account is made.

The Long-Run Exchange Policy of the Account. Fortunately, the prob-

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so carefully worked out by Mr. Paish and others, are of little usefulness as indicators of the exchange policy of the account. In the absence of a straightforward official explanation of the purpose of given exchange operations of the account, the student requires an extremely detailed volume of indirect evidence to be able to draw conclusions regarding the probable purposes of those operations. Since he is concerned with the *purpose* of the account's intervention at given periods, what he really needs to know is the *volume* of foreign exchange bought or sold and the *price* at which the transactions are carried out. In addition, he needs to have some general idea as to the market demand situation at the time of the specific operations under consideration. A sale, for example, of 5 million dollars by the account on a quiet exchange market had far more effect than a sale of many times that amount on an extremely active market.

No matter how accurate the estimates of variations in the gold holdings of the account are over a given period, the figures are without real significance unless one knows the sterling rate at which the gold had been acquired or sold by the account. Generally, during the 1932-1939 period, an accumulation of gold by the account over a considerable period merely reflected the fact that an inflow of capital balances into London was taking place. So long as the account acquired this gold at stable sterling prices, its operations could hardly be deemed to represent an attempt to depreciate sterling. Similarly, the important periods of gold outflow from England largely reflected a shift of short-term balances from London to New York. To the extent that the account supplied the gold counterpart at relatively fixed sterling prices, it was not "supporting" so much as maintaining stable the exchange value of sterling.

In other words, more enlightening evidence as to the actual policy of the account is given by a study of the sterling price of gold over the 1932-1939 period, *i.e.*, the price at which the account was willing to buy or sell gold, than by a study of the variations in its gold holdings.

[8] This fact was well understood by the most astute operators, speculative and otherwise, in the principal exchange markets. They followed the operations of the account very closely in order to obtain an insight into the outlook of the account toward given market situations. Their success in anticipating the actions of the account is a matter of general knowledge in the world's exchange markets. The operators knew, for example, that when the account adopted a strict peg it was determined to prevent the pound from depreciating. On the other hand, when it was reluctant to lose gold in supporting sterling exchange at a given level, its cautious operations encouraged the speculators to take advantage of the situation by offering large amounts of sterling exchange on the market and thus frightening the account into allowing the sterling rate to depreciate. The bear speculators, in other words, were often able to determine the level at which the account "chose" to support sterling. The account consistently refused to undertake the only type of exchange operations that would effectively deal with bear speculation, *viz.*, major bear squeezes. Thus, the student, like the market operator, can generally gain an insight into the attitude of the managers of the account by following closely the type of exchange operations used by the account at crucial periods.

lem of interpreting the long-run exchange policy of the account is simplified by the fact that it had only three basic alternatives from which to choose. These were:

1. An "equilibrium policy" of attempting to iron out disturbing short-run fluctuations of sterling exchange without interfering with long-run equilibrium adjustments.

2. A policy of utilizing the account as a means of deliberate depreciation of the exchange value of sterling as far as possible without arousing foreign retaliation.

3. A policy of refraining from exchange operations that ran the risk of provoking hostile international reactions and of basing major policy decisions largely on considerations of practical expediency.[9]

The facts of the 1932-1939 experience furnish a clear basis for rejecting the second alternative as a realistic interpretation of the account's exchange policy. Thus, the dollar-sterling rate *rose* from 3.60 in June, 1932, to 4.68 in August, 1939. Over the greater part of the 1932-1939 period the dollar-sterling rate was above the pre-September, 1931, gold parity. Similarly, the franc-sterling rate rose from 92 francs to the pound in June, 1932, to 186 francs to the pound in August, 1939. This appreciation of sterling in terms of the two most important foreign currencies indicates that the account did *not* attempt systematically to depreciate the foreign exchange value of sterling.

Our problem, therefore, is to determine whether the account followed an equilibrium exchange policy or a policy of practical expediency. This problem is simplified by the fact that, throughout its existence, the account's exchange policy was decided largely with reference to the dollar, *i.e.*, the most important foreign currency. The gold value of the dollar was stable between June, 1932, and February, 1933, and again from January, 1934, until the end of the existence of the account. This meant that once the account decided on a dollar-sterling rate, the rate of exchange between sterling and other foreign currencies was beyond its influence. The account allowed its judgment as to the proper level of dollar-sterling exchange to be influenced only slightly by considerations of the effects of the dollar-sterling rate on other currencies.[10]

Since the account's exchange policy was in such large measure a dollar policy, our problem becomes that of determining whether the managers of the account attempted to follow a policy based on the

[9] The assumption that the account had no long-run exchange policy and operated always on the spur of the moment can be viewed as a variant of this third alternative.

[10] At certain periods, the account apparently allowed the French franc situation to influence its operations somewhat but it had to disregard the minor currencies.

principle of maintaining equilibrium between sterling and the dollar or whether they were content with following a policy of practical expediency, *i.e.*, basing their decision as to appropriate rates of exchange between the two currencies largely on their judgments as to the probability of given adjustments provoking retaliation by the American monetary authorities.

The failure of the account to *achieve* an equilibrium policy is reflected in the divergent course of dollar-sterling exchange and Anglo-American wholesale prices over the 1932-1939 period. The most marked divergence occurred in 1933, when the dollar-sterling rate rose over 50 per cent during the course of the year, whereas the ratio of American to British wholesale prices remained relatively unchanged. Between January, 1934, and August, 1936, both the dollar-sterling rate and the ratio of American to British wholesale prices were fairly stable. During this period, therefore, it is theoretically conceivable that the managers of the account attempted to follow a strict equilibrium policy. In the last six months of 1937, however, a development occurred which points to the conclusion that the account was definitely not *attempting* to follow an equilibrium policy. Despite the fact that the American wholesale price level declined relative to the British level during those months, the dollar-sterling rate rose slightly. Since the dollar price of gold was fixed, the account could have caused the dollar-sterling rate to fall (as it would have done if it had been following a strict equilibrium policy) simply by raising the sterling price of gold.

The evidence, therefore, suggests that the account did not attempt unsuccessfully to pursue a strict equilibrium policy, but rather was content to follow a less rigid policy. The operations of the account acquire a clear-cut rationale if interpreted as having been basically influenced over the greater part of the 1932-1939 period by the unwillingness of the British treasury officials in charge of the account to carry their dollar-sterling operations to the point where they would run into open conflict with the American treasury. They seem to have believed that the preservation of friendly relations with the American authorities would yield more dividends in the long run than would the pursuit of an inflexible equilibrium policy. The alternative of attempting to depreciate the dollar value of sterling had been ruled out as early as 1933 by the practical certainty that it would provoke prompt and effective American retaliation and be self-defeating. The decision in favor of a policy of expediency emerged as a result of the experience of the account in 1932 and 1933.

The Experimentation Phase, 1932. The fact that the account was established as a means of preventing the further appreciation of the

dollar value of sterling at a time when the dollar-sterling rate was still only 75 per cent of its pre-September, 1931, parity suggests that at that time the British treasury welcomed an undervalued pound. Since the United States adhered to the gold standard throughout 1932, the British authorities remained free that year to depreciate sterling *vis-à-vis* the dollar without fear of retaliation. During July and August, 1932, the account acquired considerable amounts of gold and dollar exchange as a consequence of its sterling sales, *i.e.*, it continued and even fortified its policy of allowing sterling to remain at its depreciated level. In September, however, the action of the managers of the account in resisting to the limit of their newly acquired gold resources the bear pressure against sterling that developed that month marked the abandonment of the policy of allowing sterling to depreciate.[11] The dollar-sterling rate dropped to the post-war low figure of 3.15 in November, after all the gold assets of the account had been exhausted in the futile effort to support the rate. Apparently, the virulent American criticism that was aroused at that time thoroughly disturbed the British treasury officials and caused them to incline thereafter to a policy of extremely cautious operations in the exchanges.

The Phase of Passive Coöperation, 1933-1936. The embarkation of the American government in March, 1933, on a policy of active depreciation of the dollar, so shortly after the disappointments of the 1932 account operations, brought the British treasury officials face to face with a very difficult decision. They had to decide whether they should attempt to resist the American policy by deliberately increasing the sterling price of gold *pari passu* with increases in the dollar price of gold, or whether they should adopt a policy of watchful waiting. The pursuit of the latter course offered the dismal prospect of seeing the dollar-sterling rate return to or above the pre-September, 1931, parity. On the other hand, the British treasury had no reason to feel confident that increases in the sterling price of gold would do other than provoke even greater increases in the dollar price of gold. The seeming futility of attempting actively to resist the American policy apparently was the deciding factor in favor of the decision of the British treasury to follow the policy of watchful waiting. As a consequence, the dollar price of gold rose by 69 per cent in the eleven months after the beginning of March, 1933, whereas the sterling price of gold rose by only 14 per cent.

[11] This is the case unless one credits the British officials with the subtlety of having deliberately entered in support of sterling in anticipation of an exhaustion of their gold resources and a subsequent accentuation of the decline in sterling. The bulk of the evidence, however, indicates that the September operations of the account were undertaken in good faith.

With the adoption by the United States, in January, 1934, of a fixed dollar price of 35 dollars per fine ounce of gold, the basic rationale for the British treasury policy of allowing the American authorities to determine the level of dollar-sterling exchange underwent a sudden change. The British government had from the beginning a very real stake in seeing the new gold buying policy of the United States left undisturbed. The fact that the United States had reëstablished a fixed dollar price for gold meant that the account could have depreciated the dollar-sterling rate at will thereafter by raising the sterling price of gold. American retaliation could have taken one or more of three forms: (1) a *pari-passu* increase in the dollar price of gold, (2) a lowering of the dollar price of gold, or (3) the introduction of restrictions that would have barred the American market to Empire gold. The British treasury had good reason to fear the consequences that would arise from either of the latter two alternatives. The British Empire, as the largest gold producing unit in the world and as a large-scale holder of the metal, had high stakes in the continuance of the American gold policy. Moreover, the arguments in favor of restraint on the part of the account in undertaking operations that might adversely affect the United States gold policy were made stronger in the period after 1934 by the growing world-wide distrust in the future of gold. The British treasury had no reason to anticipate gains from a slight depreciation of sterling relative to the dollar that would be commensurate with the losses that would result from an unfavorable shift of American gold policy.

The relative stability of the dollar-sterling rate in the 1934-1936 period, therefore, appears to have rested principally on a strong economic basis. There is good reason, however, to believe that the British treasury did not at first altogether relish its new and rather subservient exchange rôle. The course of events in March, 1935, for example, is highly revealing on this score. At the beginning of the month, the dollar-sterling rate suddenly dropped to 4.75, then promptly began to recover. It was believed in certain financial quarters that this episode was due to the account's first having deliberately abandoned its supporting operations and then having resumed its support of sterling under pressure from American official quarters. If this hypothesis is correct, it indicates that the prevailing dollar-sterling rates were regarded as too high by the British officials. The general maintenance of the dollar rate above the 4.86 level in the 1934-1936 period, if this view is correct, was undertaken reluctantly and only because of the greater unwillingness of the British treasury to menace the gold *status quo* by entering into conflict with the American authorities. Symptomatic of the absence of enthusiasm behind the British acquiescence in the prevailing dollar-sterling rates was

the lack of technical coöperation between the two treasuries. Thus, the account operated only in terms of the French franc from the beginning of 1933 until September, 1936. The account could have evaded the American treasury gold regulations of 1934 by shipping gold to New York and acquiring and holding dollar balances, in order to weaken sterling *vis-à-vis* the dollar. This practice was rejected, probably because of the fear that it would have provoked an alteration in the regulation.

Phase of Active Coöperation, September, 1936-August, 1939. With the conclusion of the Tripartite Agreement in September, 1936, coöperation between the American and British treasuries entered into a more active phase. The technical collaboration, which took the form of daily interfund operations and interchange of information,[12] was accompanied by indications of growing harmony between the account and the American Stabilization Fund. The hesitance of the account in acquiescing in the prevailing dollar-sterling rates disappeared with the deterioration of the international situation after 1936.

In this period some revealing indications of the "coöperative" attitude of the account occurred. In the last half of 1937, for example, the dollar-sterling rate rose despite the relatively greater decline of American than British wholesale prices during that period. Again in November, 1938, the account halted the depreciation of the dollar-sterling rate at the request of the American treasury. Finally, the dollar-sterling peg of 4.68 that was maintained from February until the final week in August, 1939, was adhered to, despite the fact that the rate was recognized in financial circles throughout the world as being indefensible over the long run and as being a standing inducement to bear speculation against the pound.

In all of these cases, the managers of the account could have al-

[12] The technique of daily interfund coöperation established by the Protocol (October 13, 1936) to the Tripartite Agreement was as follows: Each fund undertook to control the exchange value of its own currency in coöperation with all the other funds. It carried out all the official exchange operations in its own market, and delegated the task of controlling the exchange value of its own currency in foreign centers to the funds in those centers. When one of the currencies was noticeably "weak," *i.e.*, tending to depreciate in terms of other currencies, large-scale supporting operations in many exchange markets were often necessary. The informal practice followed was to have the fund whose currency was weak support the exchange value of its own currency in its own market at the level it deemed defensible. The other funds would support the weak currency in their own markets at the level designated by the fund concerned. Thus, if sterling were weak in terms of the dollar, the account would have the responsibility of supporting sterling actively in the London market. As soon as that market closed for the day (around 1:30 P.M. New York time), the American Stabilization Fund would undertake to support sterling in the New York market at the level suggested by the account. As a result of the adherence of Belgium, Switzerland, and the Netherlands to the agreement, a system of interfund operations in nearly all the important free exchange markets in the world was possible. At the end of each day, the fund which sold foreign exchange on balance earmarked gold to the credit of the various supporting funds.

lowed the dollar-sterling rate to decline without fear of American retaliation. Indeed, the account had a potentially freer hand in this than in the earlier period, for it had the power, under the Tripartite Agreement, to operate in terms of the dollar, *i.e.*, the power to buy dollar exchange and convert the balances into gold earmarked to its credit in New York. Furthermore, the American Treasury was in a difficult strategic position in 1938 and 1939. Growing dissatisfaction was being expressed, both within and without Congress, over the American gold buying program. Even if the British account had chosen to allow the sterling price of gold to rise, the American authorities could hardly have afforded to retaliate by increasing the dollar price of gold. Furthermore, in view of the growing war clouds, retaliation in the form of closing the New York market to British gold would have run the risk of provoking disastrous public reactions within the United States.

The British treasury's coöperation, therefore, seems to have rested on a desire to aid the American treasury in avoiding further difficulties with Congress during this very troublesome period. The managers of the account must have realized that a sharp decline in the dollar-sterling rate would have aggravated the hostile reactions of Congress and caused serious trouble for the American monetary authorities.

Two reasons may be suggested for this strong desire to keep on friendly terms with the American treasury. First, there was the continued stake of the Empire in the gold policy of the United States at a time when that policy was being threatened by internal and external developments. Secondly, the growing international tension made it highly desirable for the British treasury not to incur the displeasure of the American monetary authorities by taking advantage of a temporary opportunity to depreciate sterling. The British officials may well have anticipated a situation in which the good will of these same American officials would be an invaluable asset.

The Franc Policy of the Account. With dollar-sterling rates largely determined by considerations of their influence on Anglo-American relations, the managers of the account were generally unable to give much consideration to the course of franc-sterling exchange.

From June, 1932, until March, 1933, the dollar policy of the account was *ipso facto* its franc policy, since both France and the United States had fixed gold parities. Between March, 1933, and September, 1936, the gold equivalent of sterling fell from 70 per cent to 60 per cent of its 1931 parity. Since the gold equivalent of the dollar experienced an even greater decline over the same period, the maintenance of a stable sterling price of gold after March, 1933, would probably have involved a dollar-sterling rate of about $5.50. Although

the necessity for preventing the pound from becoming thus grossly overvalued *vis-à-vis* the dollar involved definite injury to France and the other gold bloc countries, this seemed preferable to allowing a serious disequilibrium between the pound and sterling to develop.

The relative stability of the dollar-sterling rate between October, 1936, and April, 1938, taken in conjunction with the dollar policy of the account, meant that the ultimate decisions regarding the successive franc depreciations in those months lay with the American treasury. All the Tripartite authorities, as we have seen, acquiesced in the depreciations in the gold content of the franc that took place after September, 1936. Nevertheless, if the American treasury had attempted to oppose these franc depreciations, it seems probable that the account would, however reluctantly, have followed the American lead.

With the successful pegging of the franc to the pound in May, 1938, the franc became a satellite to the pound. The officials in charge of the account, therefore, were concerned during the final sixteen months of its operations as a stabilization fund almost solely with the course of dollar-sterling exchange.

The Political Character of the Account's Exchange Policy. If the above interpretation of the exchange policy of the account is at all sound, Mr. Chamberlain's statement of that policy does not correspond with the facts of the 1932-1939 experience. Instead of following an equilibrium policy, the British treasury pursued a basically political exchange policy, in which decisions regarding alterations in the exchange value of sterling rested largely on its judgment as to the political expediency of such adjustments.

The long-run exchange policy of the account has two major implications for the theory and practice of monetary management. In the first place, the subservience of British exchange policy to American exchange policy after March, 1933, means that a full understanding of Anglo-American monetary relations during the 1932-1939 period requires an understanding of the motives behind American exchange policy. In this article, however, lack of space has compelled an acceptance of that policy as a datum.

In the second place, the severe technical limitations imposed on the account by the political motivations of its operations meant that the account failed to realize the full potentialities inherent in the stabilization fund device. Nevertheless, the experience of the account, limited as it was, throws considerable light on the potential usefulness of the fund mechanism in the post-war era.

The Future of the Stabilization Fund Mechanism. The future usefulness of stabilization funds is obviously dependent upon the restoration of a world economic system in which freedom of transfer of

private balances is regarded as being in the long-run interest of n tional economies. If official opinion in the future inclines, as a rest of the experiences of the 1930's, to the belief that the internation transfer of private balances operates largely as a disequilibrating facto we are likely to see the widespread continuation of systems of *exchan control*.[13] Properly used, the stabilization fund mechanism enables t monetary authorities of a country to maintain exchange equilibriu through appropriate exchange rate adjustments. The use of a stabiliz tion fund either to depreciate or to appreciate the exchange value of currency, beyond that necessary to long-run equilibrium in a mark free to private operators, represents a perversion of the mechanism.

The pursuit, in the future, of the goal of exchange equilibrium l means of stabilization fund systems calls for a general recognition the fact that, in the absence of identical national *konjunktur* policie it entails abandonment of permanent stability in exchange rates. Tl adoption of stabilization funds, logically, implies a decision in favor effecting adjustments toward equilibrium *via* exchange rate shifts. Tl limited usefulness of stabilization funds in the 1930's arose from tl fact that the United States maintained a fixed dollar price for gold ar Britain felt compelled to maintain rough exchange rate stability betwe sterling and the dollar. Under the circumstances, an equilibrium poli was out of the question. No two countries can maintain independer and varying, price policies and, at the same time, preserve permane stability in the exchange rate between their currencies. If such a poli is attempted, stabilization funds can then be used as nothing more th offsetting mechanisms similar to central bank open market techniq under gold standard conditions. If the stabilization funds are to used as "equalization" instruments, exchanges must be allowed fluctuate to effect equilibrium.

Granted that two or more countries in the future decide to utili the stabilization fund device, the experience of the account thro considerable light on the proper techniques to be adopted. The e perience of the account demonstrated that two types of internation gold movements, those arising out of "panic transfers" of short-ter balances and those arising out of speculative transactions, created t most difficult problems for the stabilization funds.

The panic transfers that played so large a rôle in the internatior monetary sphere during the 1930's were motivated largely by fear the currency situation in the country of origin. The transferrers, feari

[13] In this regard, it should be noted that the failure of the monetary authorities France, the Netherlands, and Switzerland to achieve a cessation of the outward flow capital balances even after the adoption of the stabilization fund technique may se indefinitely to discredit the mechanism in those countries.

that the value of their holdings would soon approach zero (because of sequestration, etc.) unless removed to another country, hastened to acquire foreign exchange with little or no regard to the rate at which the transfer could be effected. Since these transfers had this unconditional demand character, stabilization funds could stop them only by outright prohibitions, *i.e.*, exchange control proper, or, on rare occasions, by a drastic depreciation of the exchange value of their currency. Thus, as the panic transfers came to dominate the international exchanges, the pressure to abandon the stabilization fund system in favor of some form of exchange control became very great.

The gold movements arising from speculative transactions differed conspicuously, in the highly conditional character of the speculative demand for foreign exchange, from the movements arising from panic transfers. Speculators were concerned with the opportunity for profits from *anticipated shifts* in the price of foreign currencies. They contained to operate as long as they were successful in their diagnoses. The task of the stabilization fund authorities, therefore, was to outwit the speculators.

All of the attempts of the British account after January, 1934, to cope with serious bear speculation against sterling failed because the account's unwillingness to allow the exchange value of sterling to fluctuate freely over short periods inevitably condemned it to the use of tactics that were vulnerable to continued bear pressure. During its existence as a stabilization fund, the account attempted to handle the problem of bear speculation against sterling by the use of "minor bear squeezes," by yielding gradually to bear pressure, by pegging operations, and even by temporarily withdrawing from the exchanges. These tactics were all inadequate. In general, their obviousness proved self-defeating, and even on the rare occasions when they caught the speculative fraternity by surprise, they failed to punish it by entailing severe losses. Success in dealing with determined speculators called for exchange operations that would both surprise and severely punish them. Only gigantic bear squeezes offered any prospect of achieving this dual purpose.[14] The refusal of the account to take advantage of the many opportunities it had to carry out such operations indicates that it viewed the elimination of bear speculation as less urgent than the maintenance of relatively stable dollar-sterling exchange relationships. Yet bear speculation frequently defeated this latter purpose.

Although bear squeezes are adequate to cope with speculation, they are subject to the criticism that they entail violent and rather large ex-

[14] See F. D. Graham, "Achilles' Heels in Monetary Standards," *Am. Econ. Rev.*, Vol. XXX (March, 1940), pp. 16-32, for a demonstration of the necessity of resorting to bear squeezes in order to keep speculation under control.

change fluctuations that may prove damaging to normal commercial trading relations. This difficulty, however, can be taken care of by proper action on the part of stabilization fund authorities. The following represents a possible solution: The treasuries of those countries using stabilization funds should issue a joint statement declaring that speculation against their currencies is not in the public interest and will be dealt with by "appropriate" exchange operations. The declaration furthermore should emphasize that, in view of the fact that the goal of maintaining equilibrium relationships between the various currencies would involve variable exchange rates, the authorities are prepared to supply and purchase forward exchange at any time in order to protect commercial firms from the risk of such fluctuations. Commercial firms that fail to take advantage of the official forward hedging facilities would be deemed *prima facie* guilty of taking speculative risks. Once the determination of the monetary authorities of the principal countries to deal vigorously with speculators is made clear, the problem of controlling speculation will be well on the road to definitive solution.

The fact to note about these recommended changes in stabilization fund policy is that they require a change in attitude on the part of the monetary authorities of the world toward the propriety of exchange rate fluctuations. The 1932-1939 period saw a great advance in the outward forms of intertreasury and central bank collaboration. The stabilization funds, however, could not operate as mechanisms for achieving international equilibrium in the exchanges because of the Anglo-American decision in favor of relative dollar-sterling exchange and gold price stability. The stabilization fund system of the 1930's represented a compromise between the gold standard system of fixed parities and the system of appropriately variable exchange rates to correspond with more or less spontaneous changes in relative price levels. This involved the sacrifice of the psychological advantages traditionally associated with fixed gold parities and the economic advantages arising from international equilibrium in the exchanges. In the future, the proper exploitation of the stabilization fund mechanism awaits the general acceptance in commercial, financial, and governmental circles of the necessity, in a world of disparate national price structures and divergent business cycle policies, of allowing exchange rate fluctuations if stable *relationships* between the exchange, and the relative internal, values of the currencies concerned are to be maintained.

GRADUATE STUDENTS IN ECONOMICS, 1904-1940

By LEWIS A. FROMAN

More than ten years ago, a study, *Graduate Students in Economics, 1904-1928,* appeared in the *Review.*[1] The present study brings the previous analysis up to date and combines the findings of both studies for summary purposes.

The same techniques were employed for both studies so that they may be compared and combined. All information was obtained from the annual lists of "Doctoral Dissertations in Political Economy in Progress in American Universities and Colleges" which have been published in the *American Economic Review* since 1904. Since a single name may appear in successive years, the method employed to eliminate duplication was to start with the most recent year (1940, in this case) and, as preceding years were tabulated, include no names which had appeared on previously analyzed lists. This accounts for the fact that the figure for 1940 is about twice as large as the figures for other years. Since reports from the universities are not always complete, the figures somewhat understate the facts. The period of 12 years covered shows nearly the same number of candidates as the 25 years in the earlier analysis.

Table I shows the total number of candidates at 40 of the leading institutions by periods (1904-1928 and 1929-1940) and as a total for 37 years.[2] This table shows that the total number pursuing graduate work during the past 12 years was as great as the number pursuing graduate work during the 25-year period 1904-1928.[3] Another change is the wider dispersion of candidates among institutions than was the case up to 1928. Three—Columbia, Chicago, and Wisconsin—had 50 per cent of the candidates between 1904 and 1928, but these same universities had only 36 per cent of the candidates between 1929 and 1940. Fourteen institutions had 90 per cent of the candidates during the first period, but only 78 per cent of the candidates during the past 12 years.

EDITOR'S NOTE: The author is dean of Millard Fillmore College and professor of finance at the University of Buffalo.

[1] *Am. Econ. Rev.*, Vol. XX (June, 1930), p. 235.

[2] The arrangement of the information added by this recent tabulation will follow very closely that presented in the earlier study.

[3] The figure of 2811 for the period 1929-1940 is slightly exaggerated because of the duplications which were not eliminated for the last year analyzed.

TABLE I—CANDIDATES PREPARING DOCTORAL THESES, 1904–40

Institution	1904–28[a]		1929–40		1904–40	
	Number of Candidates	Per Cent	Number of Candidates	Per Cent	Number of Candidates	Per Cent
1. Columbia	722	25.7	449	16.0	1171	20.8
2. Chicago	414	14.7	340	12.1	754	13.4
3. Wisconsin	291	10.4	231	8.2	522	9.3
4. Harvard	239	8.5	251	8.9	490	8.7
5. Pennsylvania	209	7.1	144	5.1	353	6.3
6. Cornell	124	4.4	110	3.9	234	4.1
7. Minnesota	81	2.9	110	3.9	191	3.4
8. Illinois	56	2.0	118	4.2	174	3.1
9. Yale	82	2.9	66	2.3	148	2.6
10. Johns Hopkins	80	2.8	61	2.2	141	2.5
11. Ohio	44	1.6	96	3.4	140	2.5
12. California	56	2.0	80	2.8	136	2.4
13. Michigan	50	1.8	60	2.1	110	2.0
14. Northwestern	23	.8	78	2.8	101	1.8
15. Princeton	46	1.6	51	1.8	97	1.7
16. Iowa	21	.7	74	2.6	95	1.7
17. Stanford	34	1.2	49	1.7	83	1.5
18. Robert Brookings	68	2.4	16	.6	84	1.5
19. Radcliffe	41	1.5	33	1.2	74	1.3
20. Catholic	39	1.4	20	.7	59	1.1
21. American University	8	.3	46	1.6	54	1.0
22. New York University	11	.4	42	1.5	53	1.0
23. Virginia	—	—	41	1.5	41	.8
24. Bryn Mawr	22	.8	9	.3	31	.6
25. North Carolina	—	—	30	1.1	30	.5
26. Duke	—	—	28	1.0	28	.5
27. Washington University	6	.2	13	.5	19	.3
28. Texas	1	—	18	.6	19	.3
29. Toronto	4	.1	15	.5	19	.3
30. Pittsburgh	—	—	17	.6	17	.3
31. Brown	1	—	14	.5	15	.3
32. Clark	—	—	13	.5	13	.2
33. Kentucky	—	—	13	.5	13	.2
34. University of Washington	7	.3	6	.2	13	.2
35. Missouri	5	.2	7	.3	12	.2
36. McGill	—	—	11	.4	11	.2
37. Nebraska	2	.1	9	.3	11	.2
38. Indiana	8	.3	2	.1	10	.2
39. Fordham	—	—	7	.3	7	.1
40. Vanderbilt	—	—	6	.2	6	.1
Others	14[b]	.5	27[c]	1.0	41	.8
Totals	2809	100.0	2811	100.0	5620	100.0

[a] The figures given in this column do not agree with those reported in the June, 1930, article. The reason for this is that the 575 candidates reported for 1928 in the 1930 study included duplications. With the availability of the lists for subsequent years, these duplications were eliminated and the official number for 1928 becomes 261 instead of 575.

[b] Studying at: Institute of Economics, Syracuse, Denver, Washington and Lee, Oklahoma Agricultural and Mechanic, North Dakota, and Colorado.

[c] Studying at: Colorado, Kansas, St. Louis, North Dakota, West Virginia, Southern California, Syracuse, Western Reserve, Utah, Oxford (England), Oklahoma Agricultural and Mechanic, Georgetown, and Arbiter (Germany).

GRADUATE STUDENTS IN ECONOMICS, 1904-1940

By LEWIS A. FROMAN

More than ten years ago, a study, *Graduate Students in Economics, 1904-1928,* appeared in the *Review*.[1] The present study brings the previous analysis up to date and combines the findings of both studies for summary purposes.

The same techniques were employed for both studies so that they may be compared and combined. All information was obtained from the annual lists of "Doctoral Dissertations in Political Economy in Progress in American Universities and Colleges" which have been published in the *American Economic Review* since 1904. Since a single name may appear in successive years, the method employed to eliminate duplication was to start with the most recent year (1940, in this case) and, as preceding years were tabulated, include no names which had appeared on previously analyzed lists. This accounts for the fact that the figure for 1940 is about twice as large as the figures for other years. Since reports from the universities are not always complete, the figures somewhat understate the facts. The period of 12 years covered shows nearly the same number of candidates as the 25 years in the earlier analysis.

Table I shows the total number of candidates at 40 of the leading institutions by periods (1904-1928 and 1929-1940) and as a total for 37 years.[2] This table shows that the total number pursuing graduate work during the past 12 years was as great as the number pursuing graduate work during the 25-year period 1904-1928.[3] Another change is the wider dispersion of candidates among institutions than was the case up to 1928. Three—Columbia, Chicago, and Wisconsin—had 50 per cent of the candidates between 1904 and 1928, but these same universities had only 36 per cent of the candidates between 1929 and 1940. Fourteen institutions had 90 per cent of the candidates during the first period, but only 78 per cent of the candidates during the past 12 years.

EDITOR'S NOTE: The author is dean of Millard Fillmore College and professor of finance at the University of Buffalo.

[1] *Am. Econ. Rev.*, Vol. XX (June, 1930), p. 235.

[2] The arrangement of the information added by this recent tabulation will follow very closely that presented in the earlier study.

[3] The figure of 2811 for the period 1929-1940 is slightly exaggerated because of the duplications which were not eliminated for the last year analyzed.

TABLE I—CANDIDATES PREPARING DOCTORAL THESES, 1904–40

Institution	1904–28[a]		1929–40		1904–40	
	Number of Candidates	Per Cent	Number of Candidates	Per Cent	Number of Candidates	Pe Cer
1. Columbia	722	25.7	449	16.0	1171	20.
2. Chicago	414	14.7	340	12.1	754	13.
3. Wisconsin	291	10.4	231	8.2	522	9.
4. Harvard	239	8.5	251	8.9	490	8.
5. Pennsylvania	209	7.1	144	5.1	353	6.
6. Cornell	124	4.4	110	3.9	234	4.
7. Minnesota	81	2.9	110	3.9	191	3.
8. Illinois	56	2.0	118	4.2	174	3.
9. Yale	82	2.9	66	2.3	148	2.
10. Johns Hopkins	80	2.8	61	2.2	141	2.
11. Ohio	44	1.6	96	3.4	140	2.
12. California	56	2.0	80	2.8	136	2.
13. Michigan	50	1.8	60	2.1	110	2.
14. Northwestern	23	.8	78	2.8	101	1.
15. Princeton	46	1.6	51	1.8	97	1.
16. Iowa	21	.7	74	2.6	95	1.
17. Stanford	34	1.2	49	1.7	83	1.
18. Robert Brookings	68	2.4	16	.6	84	1.
19. Radcliffe	41	1.5	33	1.2	74	1.
20. Catholic	39	1.4	20	.7	59	1.
21. American University	8	.3	46	1.6	54	1.
22. New York University	11	.4	42	1.5	53	1.
23. Virginia	—	—	41	1.5	41	.
24. Bryn Mawr	22	.8	9	.3	31	.
25. North Carolina	—	—	30	1.1	30	.
26. Duke	—	—	28	1.0	28	.
27. Washington University	6	.2	13	.5	19	.
28. Texas	1	—	18	.6	19	.
29. Toronto	4	.1	15	.5	19	.
30. Pittsburgh	—	—	17	.6	17	.
31. Brown	1	—	14	.5	15	.
32. Clark	—	—	13	.5	13	.2
33. Kentucky	—	—	13	.5	13	.2
34. University of Washington	7	.3	6	.2	13	.2
35. Missouri	5	.2	7	.3	12	.2
36. McGill	—	—	11	.4	11	.2
37. Nebraska	2	.1	9	.3	11	.2
38. Indiana	8	.3	2	.1	10	.2
39. Fordham	—	—	7	.3	7	.1
40. Vanderbilt	—	—	6	.2	6	.1
Others	14[b]	.5	27[c]	1.0	41	.8
Totals	2809	100.0	2811	100.0	5620	100.0

[a] The figures given in this column do not agree with those reported in the June, 193 article. The reason for this is that the 575 candidates reported for 1928 in the 1930 stud included duplications. With the availability of the lists for subsequent years, thes duplications were eliminated and the official number for 1928 becomes 261 instead of 57

[b] Studying at: Institute of Economics, Syracuse, Denver, Washington and Lee, Oklahom Agricultural and Mechanic, North Dakota, and Colorado.

[c] Studying at: Colorado, Kansas, St. Louis, North Dakota, West Virginia, Southern Cali fornia, Syracuse, Western Reserve, Utah, Oxford (England), Oklahoma Agricultural an Mechanic, Georgetown, and Arbiter (Germany).

The total number of candidates pursuing graduate work in economics at the institutions with the largest number of candidates is given by years in Table II. The total number of candidates preparing doctoral theses in economics has not continued to grow as it did between 1904 and 1928. The most rapid increase took place during the middle 1920's, with a peak in 1927.[4] The year 1932 is the second largest. In 1933, the number of candidates fell very drastically and as late as 1937 the number of candidates was at the lowest level it had been since 1924. In recent years the number of candidates has not fluctuated very far from the 200 mark. The extraordinary variations in one or two cases, especially Cornell, suggest lack of full reporting at times. Among institutions, the decline in the relative number of candidates studying at Columbia and the increases in the number of candidates at institutions other than the leading ones are the most noticeable changes.

Table III shows, first, the importance of the various subjects for the period 1929-1940. The largest number of candidates were preparing theses in the field of agricultural economics. Almost as many candidates chose money and banking as the field for their dissertations. In the 12-year period, there would seem to be a downward trend in the number of those preparing theses in agriculture, while the trend in the second largest field, money and banking, is slightly upward. Third in importance among theses subjects is the group, accounting, business methods, investments and exchanges, and the trend in this field would also seem to be slightly upward for the 12-year period. In fourth and fifth places, with about an equal number of candidates, are the fields of public finance and labor problems.

Table III shows also a total of 5620 for all doctoral dissertations in economics on all subjects from 1904-1940. In the earlier study (1904-1928), the field of economic history was first but, in the later, is seventh. The second most important subject for the earlier period was labor problems, which ranked fifth for the past 12 years.

For the entire 37-year period, agriculture holds first place; labor problems and economic history follow closely; accounting, money and banking, and social problems follow in fourth, fifth, and sixth places, respectively. Table IV attempts to show the importance, both absolute and relative, of the 7 largest subject matter fields for the 17 institutions which had the largest number of candidates between 1929 and 1940. An examination of the percentages in the table will show, for example, that four universities—Cornell, Wisconsin, Minnesota and Harvard—account for approximately 55 per cent of the total candidates in agri-

[4] This, of course, disregards the large figure for 1940, which, as previously explained, is not comparable to the other years. There were 286 candidates in 1927, a figure not shown in the present Table II but in Table II of the previous study.

TABLE II—DOCTORAL CANDIDATES BY INSTITUTIONS: NUMBERS AND PERCENTAGES

	Institution	Columbia	Chicago	Harvard	Wisconsin	Illinois	Pennsylvania	Cornell	Minnesota	Ohio	Yale	Michigan	Johns Hopkins	California	Princeton	Stanford	Iowa	Northwestern	American University	Others	Total
Numbers by Years	1929	14	52	20	26	4	6	16	16	1	9	7	6	2	2	5	4	5	3	26	224
	1930	45	20	31	19	2	14	23	11	9	4	8	1	8	5	9	2	3	7	21	242
	1931	40	27	15	11	13	19	4	11	10	14	2	7	2	—[a]	7	4	7	—[a]	21	214
	1932	29	33	25	30	18	18	8	5	9	6	6	7	9	6	5	8	9	4	24	259
	1933	17	15	19	15	9	9	29	4	9	4	4	7	1	3	2	5	6	2	28	188
	1934	37	18	36	10	9	10	8	6	8	3	—[a]	6	6	4	6	5	6	3	31	212
	1935	40	28	24	11	8	13	2	8	7	3	2	5	1	6	—[a]	5	8	2	31	204
	1936	30	11	11	22	25	4	4	6	8	5	3	3	8	2	3	9	10	—[a]	32	196
	1937	27	15	12	21	2	10	1	8	7	3	5	3	9	5	4	6	—[a]	3	36	176
	1938	28	21	18	11	7	4	—[a]	9	11	3	4	5	13	3	5	9	3	5	41	200
	1939	43	29	11	9	5	12	5	8	4	5	6	4	10	3	—[a]	9	3	3	38	207
	1940	99	71	29	46	17	25	10	18	13	7	13	7	11	12	3	8	18	14	68	489
	Total 1929–40	449	340	251	231	118	144	110	110	96	66	60	61	80	51	49	74	78	46	397	2811
	Total 1904–1928	722	414	239	291	56	209	124	181	44	82	50	80	56	46	34	21	23	8	229	2809
	Grand Total	1171	754	490	522	174	353	234	191	140	148	110	141	136	97	83	95	101	54	626	5620
Percentage by 5-Year Periods	1939–40	20.4	14.4	5.7	7.9	3.2	5.3	2.2	3.7	2.4	1.7	2.7	1.6	3.0	2.2	.4	2.4	3.0	2.4	15.2	99.8
	1934–38	16.4	9.4	10.2	7.6	5.1	4.1	1.5	3.7	4.1	1.7	1.4	2.2	3.7	2.0	1.8	3.9	2.7	1.3	17.3	100.1
	1929–33	12.9	13.0	9.8	9.0	4.1	5.8	7.1	4.2	3.4	3.3	2.4	2.5	1.9	1.4	2.5	2.0	2.7	1.4	10.6	100.0
	1924–28	16.3	16.7	6.9	10.6	2.2	8.7	4.2	5.5	2.7	2.4	2.0	1.5	1.6	1.5	1.3	.5	1.7	.7	13.0	100.0
	1919–23	30.4	16.3	8.2	9.9	.9	10.7	1.7	2.4	.5	1.9	1.9	2.0	3.6	1.7	.6	.6	.3	—[a]	6.4	100.0
	1914–18	41.8	13.0	6.0	8.3	2.7	3.7	4.3	—[a]	1.9	2.3	1.0	5.6	.6	1.7	1.2	2.1	—[a]	—[a]	3.7	99.9
	1909–13	26.1	14.7	12.3	12.0	3.6	2.7	8.4	.6	.3	4.8	2.1	4.5	2.4	.9	2.7	—[a]	—[a]	—[a]	1.8	99.9
	1904–08	25.6	2.5	18.6	12.6	—[a]	7.0	7.5	—[a]	—[a]	7.5	1.5	4.0	1.5	3.5	—[a]	.5	.5	—[a]	7.0	99.8
	TOTAL	20.8	13.4	8.7	9.3	3.1	6.3	4.2	3.4	2.5	2.6	2.0	2.5	2.4	1.7	1.5	1.7	1.8	1.0	11.1	100.0

[a] Incomplete

TABLE III—DOCTORAL CANDIDATES BY SUBJECTS: NUMBERS AND PERCENTAGES

	Subject Group	Theory	Economic History	Agriculture	Manufacturing Industries	Transportation and Communication	Trade and Commerce	Accounting, Business Methods, etc.	Capital and Capitalistic Organization	Labor Problems	Money, Prices, Credit and Banking	Public Finance, Taxation and Tariff	Population and Migration	Social Problems	Insurance and Pensions	Charities and Relief Measures	Statistics and Its Methods	Total
Numbers by Years	1929	14	18	31	8	8	9	11	3	12	16	11	10	66	3	1	3	224
	1930	12	12	50	7	16	7	29	10	28	24	18	13	10	3	—[a]	3	242
	1931	3	26	17	5	20	7	18	8	25	30	24	8	11	5	2	5	214
	1932	14	21	39	12	16	9	18	15	20	30	31	4	14	7	—[a]	9	259
	1933	5	7	42	1	6	10	17	17	15	18	15	2	16	9	2	6	188
	1934	9	9	33	11	11	9	21	8	17	32	24	8	9	3	—[a]	8	212
	1935	11	18	20	8	6	13	28	6	16	35	16	2	8	10	4	3	204
	1936	10	12	19	6	11	13	31	5	20	29	26	—[a]	8	4	1	1	196
	1937	11	19	17	14	13	11	13	6	13	26	13	6	7	3	4	—[a]	176
	1938	6	17	25	5	5	16	25	9	14	36	11	3	13	5	2	8	200
	1939	13	14	19	10	12	16	27	4	25	20	21	4	13	4	—[a]	5	207
	1940	50	22	52	20	17	37	67	18	46	54	44	7	30	11	3	11	489
	Total 1929–1940	158	195	364	107	141	157	305	109	251	350	254	67	205	67	19	62	2811
	Total 1904–1928	165	372	255	98	153	121	228	94	357	181	235	106	321	51	18	54	2809
	GRAND TOTAL	323	567	619	205	294	278	533	203	608	531	489	173	526	118	37	116	5620
Percentage by 5- Year Periods	1939–40	9.1	5.2	10.2	4.3	4.2	7.6	13.5	3.2	10.2	10.6	9.3	1.6	6.2	2.2	.4	2.3	100.1
	1934–38	4.8	7.6	11.5	4.5	4.7	6.3	11.9	3.4	8.1	16.0	9.1	1.9	4.6	2.5	1.1	2.0	100.0
	1929–33	4.3	7.5	15.9	2.9	5.9	3.7	8.3	4.7	8.9	10.5	8.8	3.3	10.4	2.4	.4	2.3	100.2
	1924–28	5.6	10.4	11.7	3.7	4.7	3.5	13.1	2.2	12.4	6.0	6.9	2.2	12.8	1.7	.3	2.7	99.9
	1919–23	5.2	14.4	9.6	1.4	4.9	6.3	7.1	3.4	11.0	7.5	7.1	4.2	13.5	2.0	.9	1.6	100.1
	1914–18	6.8	15.7	5.8	3.7	5.4	4.6	3.9	4.8	13.0	5.6	11.4	5.8	8.7	2.3	1.2	1.2	99.9
	1909–13	7.2	14.1	4.5	5.1	8.1	2.4	2.4	3.6	18.9	7.8	9.3	4.2	7.8	1.8	.6	2.1	99.9
	1904–08	5.0	18.6	8.0	5.5	7.5	5.0	2.0	6.0	9.0	5.5	12.1	5.5	9.5	.5	—[a]	—[a]	99.7
	Total	5.7	10.1	11.0	3.65	5.2	4.95	9.5	3.6	10.8	9.45	8.7	3.1	9.4	2.1	2.1	.7	100.05

[a] Incomplete

TABLE IV—DOCTORAL CANDIDATES BY INSTITUTIONS AND BY SUBJECT GROUP, WITH PERCENTAGE DISTRIBUTION, 1929–40

Subject Group	Columbia	Chicago	Wisconsin	Harvard	Pennsylvania	Illinois	Cornell	Minnesota	Ohio	California	Northwestern	Iowa	Yale	Johns Hopkins	Michigan	Princeton	Stanford	Others
Economic history	52	48	3	20	3	3	—[a]	—[a]	5	2	3	2	3	6	2	1	—[a]	43
Percentage	*26.5*	*24.5*	*1.5*	*10.2*	*1.5*	*1.5*	—[a]	—[a]	*2.6*	*1.0*	*1.5*	*1.0*	*1.5*	*3.1*	*1.0*	*0.5*	—[a]	*21.9*
Labor problems	58	28	29	16	15	10	5	3	2	8	3	1	4	9	4	8	3	45
Percentage	*23.1*	*11.2*	*11.6*	*6.4*	*6.0*	*4.0*	*2.0*	*1.2*	*0.8*	*3.2*	*1.2*	*0.4*	*1.6*	*3.6*	*1.6*	*3.2*	*1.2*	*17.9*
Social problems	19	35	20	22	11	6	4	15	5	3	6	9	6	1	2	—[a]	4	38
Percentage	*9.2*	*17.0*	*9.7*	*10.7*	*5.3*	*2.9*	*1.9*	*7.3*	*2.4*	*1.5*	*2.9*	*4.4*	*2.9*	*0.5*	*1.0*	—[a]	*1.9*	*18.4*
Agriculture	21	16	55	38	6	14	59	49	12	19	5	4	1	4	3	2	9	47
Percentage	*5.8*	*4.4*	*15.1*	*10.4*	*1.6*	*3.8*	*16.2*	*13.5*	*3.3*	*5.2*	*1.4*	*1.1*	*0.3*	*1.1*	*0.8*	*0.5*	*2.5*	*12.9*
Accounting, business methods, investments, exchanges	52	33	13	17	21	27	3	7	20	6	19	12	9	7	14	3	5	36
Percentage	*17.1*	*10.9*	*4.3*	*5.6*	*6.9*	*8.9*	*6.0*	*2.3*	*6.6*	*2.0*	*6.3*	*3.9*	*3.0*	*2.3*	*4.6*	*1.0*	*1.6*	*11.8*
Public finance, taxation, and tariff	37	28	35	17	11	11	7	8	6	5	6	7	15	8	4	6	3	42
Percentage	*14.5*	*10.9*	*13.7*	*6.6*	*4.3*	*4.3*	*2.7*	*3.1*	*2.3*	*2.0*	*2.3*	*2.7*	*5.9*	*3.1*	*1.6*	*2.3*	*1.2*	*16.4*
Money and banking	77	36	17	34	10	15	12	8	23	10	14	9	7	8	8	7	8	47
Percentage	*22.0*	*10.3*	*4.9*	*9.7*	*2.9*	*4.3*	*3.4*	*2.3*	*6.6*	*2.9*	*4.0*	*2.6*	*2.0*	*2.3*	*2.3*	*2.0*	*2.3*	*13.4*
Per cent of total candidates for 12 years	*16.0*	*12.1*	*8.2*	*8.9*	*5.1*	*4.2*	*3.9*	*3.9*	*3.4*	*2.8*	*2.8*	*2.6*	*2.3*	*2.2*	*2.1*	*1.8*	*1.7*	*100*

[a] Incomplete

cultural economics. The concentration in economic history is even greater, with two institutions, Columbia and Chicago, accounting for 51 per cent of all candidates. Forty-six per cent of all candidates in the field of labor problems is found in three universities—Columbia, Wisconsin, and Chicago.

Table V shows the average number of years elapsing between the various degrees, together with the number of those who secured intermediate degrees between their degrees of bachelor and doctor.[5] In the study of the 25-year period, 1904-1928, the average number of years elapsing between the degree of bachelor and doctor was 7.8 years.[6] For

TABLE V—AVERAGE NUMBER OF YEARS FOR COMPLETION OF WORK FOR VARIOUS DEGREES, 1929–40[a]

Year	Between bachelor and doctor	Between bachelor and master	Between master and, doctor	Candidates without degrees prior to doctors'	
				Number	Percentage of total
1929	8.7	2.3	4.4	64	28.0
1930	8.4	2.4	4.2	50	20.7
1931	9.0	2.6	5.1	44	20.6
1932	9.2	2.9	5.4	39	15.1
1933	8.8	2.9	4.8	43	22.9
1934	9.9	2.8	5.5	49	23.9
1935	9.3	3.0	5.9	50	24.5
1936	9.7	2.8	5.5	32	16.3
1937	9.5	2.7	4.9	39	22.2
1938	9.8	2.7	5.6	40	20.0
1939	9.6	2.3	5.5	46	22.2
1940	9.4	2.3	5.1	118	24.1

[a] The lists from which the data for this study were taken report only those preparing theses. It is probable that some of these theses were never completed, and consequently Table V is in error to this extent.

the 12-year period, 1929-1940, the average number of years elapsing was 9.3.[7]

An opposite trend is shown for the number of years elapsing between the granting of the bachelors' and masters' degrees to those who later worked toward doctors'. For the 25-year period 1904-1928, the average is 3.2 years, but for the 12-year period 1929-1940, the average is 2.6 years.

[5] The bachelors' degrees conferred may have been B.S., B. Com., etc.; no attempt was made to distinguish between the various types. The information available for this study does not always indicate whether the doctor's was actually granted. In some cases it is known that the work has not been completed, and is not likely to be completed.

[6] See Table IX of previous study.

[7] In the earlier study the most extreme case was one which showed 45 years elasping between the bachelor's and doctor's degrees. The case of a 40-year interval between these two degrees was the most extreme for the period 1929-1940. For this latter period, there were 63 cases of more than 20 years of elapsed time.

An interval of about 5 years between the master's degree and the doctor's (for those who took masters' degrees) shows great stability throughout the entire period, 1904-1940. For the 25-year period 1904-1928, approximately one in every 3 candidates working for his doctor's had no intermediate degree; for the 12-year period 1929-1940, only about one in every 4 candidates had no intermediate degree.

Table VI shows that more than 30 institutions reported candidates to be working on doctors' degrees in each year since 1932, except in 1935, when only 29 institutions reported candidates. The most recent year analyzed, 1940, shows the largest number, 37. Only 8 institutions reported doctoral candidates in 1904. The number of institutions granting masters' degrees to those who later became candidates for doctors' also is increasing. From 1904-1928 this number grew from 8 to

TABLE VI—NUMBER, DISTRIBUTION AND MASTERS' DEGREES AMONG DOCTORAL CANDIDATES, 1929–40

Year	Institutions reporting	Distribution		Masters' degrees	
		Number of individuals	Average per institution	Number of individuals	Institutions represented
1929	27	224	8.3	95	27
1930	27	242	9.0	192	57
1931	23	214	9.3	170	55
1932	29	259	8.9	220	68
1933	31	188	6.1	145	57
1934	30	212	7.1	163	55
1935	29	204	7.0	154	51
1936	31	196	6.3	164	51
1937	35	176	5.0	137	50
1938	32	200	6.3	160	52
1939	34	207	6.1	161	48
1940	37	489	13.2	371	85

about 50, and the average for the past 12 years has been over 50 institutions.[8]

Table VII indicates the institutions which granted the bachelor's degree to students who later prepared theses for the doctor's. The showing here is most surprising, especially in the position of several smaller colleges. Although Illinois was ninth in the earlier period, it heads the list, a position held by Wisconsin for the period 1904-1928. State universities, in general, stand much higher in this listing than in Table I, which indicates the more important institutions giving work leading to the degree of doctor in economics.

The only type of information which has been collected for the period

[8] The figure of 85 for 1940 must be discounted to some extent because, as previously noted, the 1940 figure has not had the duplicates removed as was true for all other years.

1929-1940 which was not collected in the previous study of the period 1904-1928 is the distribution of the candidates for the doctoral degree in economics according to sex. Table VIII indicates that of the 2811 candidates included in the 1929-1940 period, 225 or 8 per cent were

TABLE VII—INSTITUTIONS GRANTING BACHELORS' DEGREES TO DOCTORAL CANDIDATES, 1929–40

Institution	Number	Institution	Number	Institution	Number
Illinois	108	Texas University	36	North Carolina	17
Pennsylvania	88	New York C.C.	35		
Chicago	76	Nebraska	32	Total	1365
Harvard	76	Northwestern	30		
Columbia	72	Princeton	30	Others	1252
Minnesota	64	Amherst	25		
Wisconsin	63	Stanford	25	Total	2617
California	61	Dartmouth	24		
Cornell	52	Kansas	23	*Foreign Countries*	
Ohio State	51	Yale	23	Canada	124
Washington U.	46	Colorado	21	England	12
Michigan	45	Penn State	20	China	19
Missouri	42	Pittsburgh	18	Japan	7
Iowa	37	Johns Hopkins	17	Others	32
New York Univ.	37	Beloit	17		
Oberlin	37	Kentucky	17	Total	194
				GRAND TOTAL	2811

women.[9] There has been no great variation in the distribution of men and women candidates for the various years.

It was pointed out in the beginning that the numbers dealt with here are the *candidates* which the various institutions reported as *working*

TABLE VIII—NUMBER OF MEN AND WOMEN AMONG DOCTORAL CANDIDATES, 1929–40

Year	Men	Women	Total	Year	Men	Women	Total
1929	195	29	224	1936	182	14	196
1930	223	19	242	1937	155	21	176
1931	204	10	214	1938	183	17	200
1932	245	14	259	1939	189	18	207
1933	174	14	188	1940	457	32	489
1934	198	14	212				
1935	181	23	204	TOTAL	2586	225	2811

toward their doctoral degrees. The annual lists do not indicate the number of degrees actually conferred. As a supplement to the study of these annual lists, 15 of the leading institutions were asked for the number of degrees they actually conferred between the year 1929 and

[9] The classification of candidates according to sex had to be made on the basis of their first names. It is possible that in a few cases the classification is wrong.

1939, inclusive.[10] Table IX shows the number of candidates which appeared on the annual list, together with the number of degrees actually granted by the 15 leading institutions. The 15 institutions reported 1859 candidates during this 11-year period and 1014 degrees conferred. The variation between the figures reported by the different institutions is very great. In two cases—Cornell and California—the number of degrees conferred exceeds the number of candidates listed. In several

TABLE IX—DOCTORAL DEGREES GRANTED COMPARED WITH CANDIDATES 1929–39
(by 15 Leading Institutions)

Institution	Number of candidates listed	Degrees conferred		Institution	Number of candidates listed	Degrees conferred	
		Number	Percentage			Number	Percentage
Columbia	350	104	28.27	Ohio	83	23	27.71
Chicago	269	52	19.33	California	69	78	113.04
Wisconsin	185	99	53.51	Northwestern	60	23	33.33
Harvard	222	176	79.27	Yale	59	28	47.45
Pennsylvania	119	67	56.30	J. Hopkins	54	42	77.77
Illinois	101	98	97.02	Michigan	47	26	55.31
Cornell	100	125	125.00	Princeton	39	27	69.23
Minnesota	92	49	53.26				

other cases the numbers are approximately equal, while in a few cases the number of degrees conferred represents only a fraction of the number of candidates reported on the annual lists. The comparison suggests considerable defects in the reporting of candidates.

[10] The year 1940 was not included because the candidates' list for that year was not comparable with previous years.

COMMUNICATIONS

Saving and Investment: Dynamic Aspects

It is with some hesitation that the writer brings up one of the controversies of economics which seems, of late, to have entered a quiescent stage. After a six-year mêlée, the conceptual difficulties presented in Mr. Keynes's *General Theory* seem no longer seriously to deter the monetary theorist. A continual struggle may yet be seen, however, on the part of many writers in adapting Mr. Keynes's essentially static terminology to a causal analysis. Mr. Robertson finds that Mr. Keynes, himself, is ill at ease in his new clothes, and the contortions of lesser writers are certainly apparent. It is hoped that this note may clarify a set of concepts which are still occasionally handled in such a way as to obscure the applicability of "pure theory" to the real world.

The difficulties seem to arise from a verbal and logical conflict engendered in trying to reconcile the irrefutable fact that, *ex definitione,* saving equals investment at every moment in time, with the basic conclusion that income changes mainly in response to changes in investment. Thus we have the anomaly of writers who ascribe deflation to "oversavings" while making use of a terminology which would necessitate the conclusion that the economy was simultaneously suffering from "overinvestment." Similarly, many writers imply that saving and investment might be unequal, were it not for national income which is quick to adjust itself to that level at which they will, by a happy conjunction of psychological circumstances, again be equal. But by definition, equality is *insured* at any level of income.

This confusion may be clarified by considering the twofold aspect of both saving and investment; that is, *designed* and *undesigned.* Total saving always equals total investment, but this is not true of their respective components. Thus, for example, if designed investment outlays exceed designed saving flows, total equality is maintained at each instant by additional undesigned saving; that is, unplanned excesses of income over consumption. This might take the form of unexpected holdings of cash (the converse of the income payments which constitute the increased investment), or of windfall profits.

Or, if designed saving rises by, let us say, a sudden increase in the purchase of life insurance premiums, investment will also increase, but in the *undesigned* form of unsold stocks of goods, while the increase in *net* saving will be tempered by undesigned dissaving (losses) incurred because of the increase in thrift. As these repercussions change enterpreneurs' expectations, operations will be curtailed and designed investment outlays will also be reduced. As this in turn lowers income, either (1) designed saving will also fall (individuals will cease to buy insurance); or (2) designed saving will remain high and undesigned investment (unsold stocks) will rise (further aggravat-

ing the fall in income via expectations); or (3) undesigned dissaving (losses) will offset the aggregate savings total; or (4) a fortuitous increase in the marginal efficiency of capital will raise designed investment outlays sufficiently to absorb the increased saving. If the national income falls, it will continue to do so until the components of saving and investment are so modified that designed investment exceeds (or at least equals) designed saving.[1]

However, designed saving and designed investment are not *necessarily* equated by these shifts in income. The designed investment function and the designed saving function may be so shaped that they never equal each other, at *any* national income, although this is most unlikely. Their relative positions will determine the direction of the fluctuations in income. But at each moment, undesigned investment and undesigned saving will be exactly that amount needed to "equate" saving and investment.

In equilibrium, or more concretely, in conditions of a stable national income we can expect the designed expenditures on investment to be just sufficient to absorb the designed flows of saving. When a disequilibrant, such as a change in the marginal efficiency of capital or in the propensity to consume, directly affects the size of one of the designed flows, equality will be maintained by concomitant undesigned increments in either or both accumulation streams. Over successive periods of time, as the excess of one "dynamic" factor influences the size of national income, the new economic environment will change the designed components of the two flows until, at a subsequent income level (if equilibrium is established there), the designed flows will again equate.

Economists employing Keynesian terminology, who find that oversaving forces the economy to lower levels of national income, should make clear that they mean that designed saving exceeds designed investment; thereby reducing consumption expenditures and so income. In a formal sense the economy *is* suffering from overinvestment, but this takes the form of unsold stocks of goods, and is a residual undesigned component of investment. By unfavorably influencing expectations, such unwanted accumulations of inventory further the process of deflation.

Likewise, writers who stress the shifts in the level of income as the variable which equates saving and investment should take pains to indicate that it is the designed flows that are so equated, but that the undesigned complements maintain the definitional equation at all times during the transition from one point of equilibrium to another.

This division of saving and investment into purposive and residual categories is both an aid in presenting the levers of the cycle, and a conceptual help in understanding how a changing national income "makes" saving equal investment when, by definition, they always equate.

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[1] Designed saving and investment are not quite identical with Ohlin's ex ante concepts. His terminology refers to planned (*i.e.*, anticipatory) saving or investments; mine, to current planned (*i.e.*, purposive) activity.

Ezekiel's Analysis of Saving, Consumption, and Investment

In the March and June, 1942, issues of this *Review*[1] Mordecai Ezekiel presented the results of a rather comprehensive statistical investigation of saving, consumption, and investment. For the most part the paper is devoted to the relations of saving, consumption, and investment to income, and a comparison between saving and "private" investment, leading to estimates of the gap between saving and private investment at various future levels of income. This paper is in many respects a pioneer work in the field and, consequently, I think it is worth while to present a number of critical remarks. In the following discussion, I shall summarize a few of the important parts of Mr. Ezekiel's analysis which present difficulties or seem to need qualification. However, the comments that follow are not intended to be exhaustive.

The Functional Relation of Saving and National Income

1. Mr. Ezekiel uses as his measure of saving the familiar total "offsets to saving" series, covering such items as equipment, plant, housing, consumers' credit, net foreign balance, inventories, and government net contribution. In relating the total offsets series to income, Mr. Ezekiel implies that the relationship of such saving to income in the past permits an estimation of the potential saving associated with such income in the future, making the necessary *ceteris paribus* assumptions. Total offsets, however, are by definition equal to total investment and could be assumed to determine income rather than be determined by it. The fact that a certain saving in the past was associated with a given income may mean that a particular level of income in the past accompanied a particular level of investment and may give little insight into individuals' propensities to save a certain portion of their expected income.

2. The use of the total offsets series to measure saving implies a definition of saving which should be pointed out explicitly. Total offsets are theoretically equal to the saving of individuals and business *plus* the net change in consumer credit, where the saving of individuals and business is defined as income after taxes less consumption, and purchases of consumers' durable goods other than houses are considered as consumption expenditures. Now in the type of analysis attempted by Mr. Ezekiel it is almost essential to consider separately the saving of individuals and of business and to break down even such saving into its components, since otherwise the results can easily be misleading. Even if it is decided, however, that for lack of satisfactory data the analysis of saving has to be confined to the total of private saving, I am inclined to doubt that the appropriate series consists of total offsets including the net change in consumer credit. This series does not represent any real saving which has actually taken place, since total offsets excluding the net change in consumer credit are conceptually equivalent to the total of individual and business saving, each of which already reflects the change in consumer credit. It may be appropriate to use total offsets including the net change in consumer credit

[1] "Statistical Investigations of Saving, Consumption, and Investment," Pt. I, Vol. XXXII (Mar., 1942), pp. 22-49; Pt. II (June, 1942), pp. 272-307.

as a measure of income-producing or income-stimulating expenditures, but it does not seem valid to consider such offsets as a measure of saving.

3. The relationship between saving and income obtained by Mr. Ezekiel has one element of novelty which merits comment, namely, the appearance of a parabolic trend in the propensity to save (or to consume), after allowing for the effect of income and change in income. This is a surprising trend and, to the extent that it is meaningful, accounts for a variation of as much as four billion dollars in saving between different years of the same income and change in income. It is difficult to see the *a priori* explanation of such a trend. Mr. Ezekiel suggests that, in view of the "similarities of movement" between the saving and housing trends, "differences in the phase of the housing cycle may influence the levels of saving and consumption as well of investment. The way new housing is financed largely by sale to individual families upon the amortization plan may mean that purchase of a home puts increased pressure on a family to save even with no change in income level."

I should like to comment, first, that the movements are not particularly similar and, in any case, that housing is included in the saving as well as the investment statistics, so that some points of similarity between the two series would be almost inevitable. More important, using the direct estimates of individuals' saving made by the Securities and Exchange Commission, or the indirect estimates by Simon Kuznets or the Department of Commerce, there is no evidence of any parabolic trend.[2]

Consequently, I think it might be concluded that the parabolic trend mentioned above is more a statistical curiosity than an economic phenomenon with a plausible *a priori* explanation. It may arise in part from errors in the series used and partly from deficiencies in the statistical analysis.[3] In the latter connection, it should be mentioned that Mr. Ezekiel has lowered the levels of statistical significance (in terms of probability) from the usually accepted .05 or .01, admittedly arbitrary, to .20 and even lower. Thus a significance level of .20 for the trend in the relation between saving and income is taken to represent a "significant" relation. This is "corroborated" in part by a significance level of roughly .14 for the trend in the relation between consumption and income (though the data for saving and consumption are far from independent). Yet the danger in accepting so low a level of statistical significance is suggested by the fact that, using deflated (*i.e.,* constant prices) per capita figures in the relation between consumption and income, not only is the trend not significant but the closeness of fit including trend is actually slightly lower than the fit omitting trend.

The Functional Relation of Investment and National Income

4. In determining the apparent investment-income relation for the past two decades, Mr. Ezekiel obtains a very close curvilinear regression between

[2] Similarly there is little indication of such a trend in the relationship between corporate saving and income.

[3] It must also be noted that combining the downward trend in the relationship of investment in plant and equipment to income and change in income and the upward trend in the relationship of the government net contribution to these two variables can likewise be considered to give the parabolic trend observed.

plant and equipment investment and gross national income, with a downward linear trend over time. He suggests that this downward trend results either from the decline in the rate of population growth or from changes in the cost or durability of machinery, reflecting better steels and better design and improvements in the efficiency of machine tools. It seems rather doubtful that the downward trend can be attributed to the decline in the rate of population growth over the past two decades since this period was characterized by only one real change in such growth, a sizeable decline in 1930 over the rate of increase of the twenties. It seems equally doubtful that the trend can be attributed to changes in the cost or durability of machinery since, when investment in plant and investment in equipment are related to income separately, only plant expenditures show a downward trend (and a curvilinear relation to income). Expenditures on equipment, which would be expected to be more affected by changes in the cost or durability of machinery, show no trend (and incidentally appear to be linearly related to income).

5. Changes in any of the relationships between the components of investment and income will, of course, ordinarily affect considerably the results of the analysis. This applies, of course, not only to the particular relationship investigated but also to the estimates of the gap between saving and private investment. This is particularly true of the correlation between housing investment and income. This relationship could be changed substantially without affecting the statistical reliability or logical credibility of the results. As Mr. Ezekiel points out, the slope of the net regression of housing investment on national income could be drawn considerably steeper with equal closeness of fit, but he does not make the further point, which should be emphasized, that any sizeable change in the slope would change substantially the results of his analysis.

6. The correlation which is used to represent the relationship between temporary investment, the remaining component of private investment, and change in national income also has certain questionable features which affect the reliability of the results. Thus it should be noted that income is not introduced into this correlation since it does not appear to be significant. However, what is termed temporary investment is simply the sum of two quite different components of investment, changes in business inventories and changes in consumer credit, each of which is significantly related to income as well as to change in income. Apparently when these two different components of investment are combined, the relationship of each to income is obscured. Here again the estimate of the gap is affected.

7. The relationship between quasi-investment and national income leaves much to be desired. On the basis of the complete set of relationships which Mr. Ezekiel posits, quasi-investment as indicated in the following section must be determined by income, change in income, and time (or rather the factors associated with time), making the necessary *ceteris paribus* assumptions. Conversely, income must be determined by quasi-investment, change in income and time, or, stated differently, by quasi-investment in the present and prior periods, and time. Yet, as Mr. Ezekiel points out, in 1937 and 1939, years of about the same national income, there was a variation of over three billion

dollars in the total of quasi-investment. Nor is this result unique. As a consequence, Mr. Ezekiel states that in the period subsequent to 1933, "Changes in national fiscal or defense policy, rather than the impersonal effect of economic conditions, have apparently been the controlling influence."

This is a very revealing statement in view of the fact that, in Mr. Ezekiel's comparison of the saving and private investment functions, he implicitly assumes that total saving, or total offsets to saving, and total private investment are independent of government fiscal policies (except in so far as income is affected). If total saving and total private investment were independent of government fiscal policy in this manner, the relation of quasi-investment to income similarly would have to be independent of government fiscal policy, an assumption which is not too plausible on *a priori* grounds and, as indicated above, is even more questionable on *a posteriori* grounds.[4]

Comparison of Saving and Private Investment Functions

8. In Mr. Ezekiel's comparison of the saving and the private investment functions, the gap between total saving and private investment is measured under static and dynamic conditions, at different income levels, and for various phases of the housing cycle. On this basis the size of the post-defense gap is estimated under a number of different assumptions. The relationship investigated, however, is not that between potential saving and potential investment, as Mr. Ezekiel implies (p. 273), but an *a posteriori* relationship between offsets to saving including and excluding the net foreign balance and the government net contribution. It seems to me not to be too meaningful to term one of these functions a saving and the other an investment function, to say nothing of the objections to considering them *potential* saving and investment functions.[5] Let us suppose that over a period of years the net foreign balance and the government net contribution were zero. Would it then be maintained that *potential* saving and investment were equal as they must be in such a setup?

Mr. Ezekiel has, in effect, simply segregated two components of offsets to saving, determined their average level in the past under given conditions (of income, etc.), and estimated on this basis their future level. What is done with net foreign balance and government net contribution might have been done as well with other offsets to saving, though it is true, of course, that there

[4] Another instructive exercise in determining the potential error in Mr. Ezekiel's attempt to forecast the gap between saving and investment at a high future level of income is furnished by comparing actual quasi-investment in 1929 and 1940, the high points of income in each of the two decades from 1921 to 1940, with the estimated quasi-investment obtained as the difference between estimated total offsets and estimated private investment. The differences between the actual and estimated quasi-investment in these two years depend on the method of estimation but are quite formidable in every case. It is not unreasonable to suppose that the differences would be even greater beyond the range of observed values.

[5] In a footnote to the discussion of additions to saving and temporary investment under dynamic conditions, Mr. Ezekiel points out the possibility that they both "represent merely two measurements of the same thing—first viewed as saving, and then as investment."

is a particular interest in the government net contribution. Thus, when Mr. Ezekiel says, referring to the twenties, that "the higher average level of income in that decade was maintained only through the aid of continuous quasi-investment, either public financing or net foreign balances from capital exports," he could almost equally well have attributed it to the other offsets.

9. Unfortunately Mr. Ezekiel does not anywhere give explicitly a complete model of the economic system which he is positing. Consequently, it is not clear what determines income in such a system or how the propensity, or propensities, to save enters into the relationships which he sets up; *viz.*, (1) Saving = Function_1 (Income, Change in Income, Time); (2) Private Investment = Function_2 (Income, Change in Income, Time); and, by definition, (3) Saving = Investment = Private Investment + Quasi-Investment. From (1) we could write (4) Income = Function_3 (Saving, Change in Income, Time) which in this particular case gives income for any period as a function of total saving in that period, total saving in previous periods, and of time. The last equation can be written more meaningfully as (5) Income = Function_3 (Investment, Change in Income, Time). From the above, we can also write (6) Income = Function_4 (Private Investment, Change in Income, Time), and (7) Income = Function_5 (Quasi-Investment, Change in Income, Time). It is far from obvious how income is determined from the above equations, or how changes in the propensity, or rather propensities, to save affect these relationships.

10. Finally, I should like to raise certain questions regarding Mr. Ezekiel's treatment of "Saving versus Investment under Stable Economic Conditions." Under such conditions saving in the post-war world is estimated as before (*i.e.*, as a function of income, change in income, and time) but investment is estimated, first, on the basis of the average ratio of investment to gross national product during the past two decades,[6] and, second, on the basis of a somewhat more sophisticated procedure, *viz.*, the correlation between the above ratio (investment divided by gross national product) and both the per cent increase in population and the per cent increase in real gross national product per capita for half-overlapping decades from 1879 to 1938. Now the ratio of investment to gross national product over a period of time may give some idea of the investment necessary to maintain a given level of gross national product, although it is obviously not too good even for that purpose. However, the average ratio over periods of prosperity and depression seems to furnish very little indication of the way entrepreneurs would react to the highest level of income in our history up to the period of the war, and the highest prolonged level of income ever achieved. In the past high levels of income have been accompanied by very high ratios of investment to income. It may be granted that this reflects an acceleration factor which would be absent in a post-war

[6] In effect, in this first relationship, but not in the second relationship, it is assumed that the housing cycle post-war will average as high as during the twenties. In the first relationship the average ratio of investment in plant and equipment during the past two decades is applied to the desired post-war income level of 110 billion dollars and then the average expenditure for housing during the twenties is added in. In the second relationship housing is combined with plant and equipment and the two are treated together.

world marked by a "stable" high level of income. Yet there is still little reason to believe that, confronted with such a "stable" high level of income, entrepreneurs' investment decisions in the aggregate will simply reproduce the investment "necessary" to maintain the desired national product.

Mr. Ezekiel's correlation analysis for the period 1879-1938 between the amount of investment in per cent of gross national product and both the per cent increase in population and the per cent increase in real gross national product seems to be subject to a number of deficiencies. The correlation of over .9 which is based on ten observations almost entirely disappears when the last two observations covering the periods 1924-1933 and 1929-1938 are omitted. As a matter of fact, while the partial correlation between the amount of investment in per cent of gross national product and the per cent increase in population remains positive, though becoming extremely small (+.132), the partial correlation with the per cent increase in real gross national product per capita actually becomes negative. Consequently, the correlation analysis for the period 1879-1938 is certainly suspect and the results can hardly be said to be "based on American experience over a long period of years."

More specifically, the results supposedly based on the extended period 1879-1938 seem to reflect almost entirely the fact that during the depression of the early thirties, investment in per cent of gross capital formation dropped drastically at the same time that there was a sizeable decrease in real gross national product per capita and a considerable decline in the per cent increase in population. In this connection it may be noted that the use of the per cent increase in real gross national product per capita as a measure of technological progress leaves much to be desired since this statistic measures (among other things) the degree of utilization of resources in addition to their efficiency. Thus, in the early thirties the low level of utilization of resources was a more potent factor than any technological retrogression making for a decrease in real gross national product per capita. Yet on the basis of what happened in the thirties, as reflected in the correlation analysis mentioned above, Mr. Ezekiel estimates the future requirements for capital formation assuming a stable high level of income and an assumed average rate of technological progress (and population growth).[7] This certainly is a questionable procedure.

Summary

In the preceding discussion I have pointed out briefly certain theoretical and empirical objections to Mr. Ezekiel's analysis of saving and investment which he utilizes to estimate the magnitude of the post-war gap under specified conditions. I have indicated that the theoretical structure behind these statistical relationships appears rather suspect and that the relationships themselves do not always measure what they purport to measure. I have also attempted to show certain deficiencies in the statistical analysis of saving and

[7] It should be mentioned that Mr. Ezekiel compares the 18 1/3 billion dollars of gross capital formation, estimated on the basis of the above to accompany a stable level of 110 billion dollars of income, with the private investment of 17 billion dollars estimated on the basis of the simpler approach previously discussed though, among other differences, the prior approach assumes the high phase of the building cycle characterizing the twenties.

investment, which, totally apart from theoretical reasoning, would affect very substantially both the estimates of "saving" and investment accompanying given levels of income and the resulting estimates of the post-war gap.

These comments are not exhaustive and they hardly touch upon such matters as deficiencies in the basic series used by Mr. Ezekiel or on the well-known technical limitations which characterize all such statistical analyses: *viz.*, serial correlation, high correlation between independent variables, extrapolation beyond the range of observed values, and similar technical matters.

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Saving of Individuals in Relation to Income

In a recent article,[1] Mordecai Ezekiel raised the interesting question as to whether individuals in this country tend to persist in habits of consumption spending; that is, whether during years of decreasing income they tend to spend more and to save less in relation to their income than during years of increasing income. Partly to answer this question, Ezekiel made two analyses, one of data on private saving and the other of data on consumption. Unfortunately, both analyses include serious errors of data or of interpretation, as we shall briefly point out.

1. Functional Relation of Saving and Income. By an oversight, the values for saving (total offsets to saving, according to the Currie definition) as given by Ezekiel in his Tables I and II and also as plotted in his Figures 2 to 5 are all erroneous for the years 1929-40 because they omit the net contributions of the state and local governments. The omitted amounts varied from 1.4 billion dollars in 1931 to minus 1.2 billion dollars in 1934. The corrected values are plotted in Figure 1.[2] Comparison with Ezekiel's corresponding Figure 5 shows that the corrected points for the seven depression years 1930-36 lie only about half as far, on the average, from the trend line drawn symmetrically through them.

2. Functional Relation of Consumption and Income. In his Figures 8 and 9 Ezekiel plots consumption as a function of net national income whereas he should have used gross private income as in his Figures 4 and 5. Estimates of consumption are obtained by subtracting estimates of saving from estimates of income; hence, a plot of consumption *vs.* income is also a plot of saving *vs.* income; and the choice of income used determines the kind of saving plotted. As a result of Ezekiel's choice of net national income, his Figures 8 and 9 and his corresponding equation really relate to net total saving, including government net saving, instead of to private saving; hence, no conclusion as to spending habits can be drawn from this analysis.

3. Saving of Individuals, 1929-40. The figures for saving used by Ezekiel all include the saving of corporations; yet to obtain information as to the

[1] "Statistical Investigations of Saving, Consumption, and Investment," Pt. I, *Am. Econ. Rev.*, Vol. XXXII (Mar., 1942), pp. 22-49.

[2] The values will be furnished by the writer on request.

spending habits of individuals, it would, of course, be preferable to secure data as to their saving as a separate group. It happens that Gilbert and Bangs of the Department of Commerce have recently published[3] new estimates of the saving of individuals (which they call noncorporate gross savings) and also of consumption (which they call consumer expenditures for goods and serv-

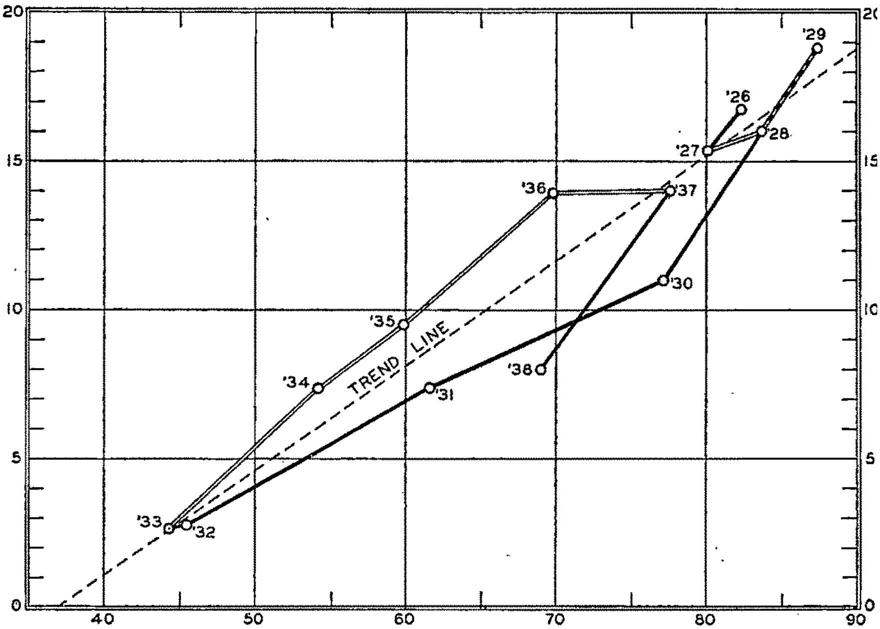

FIG. 1—Private Saving as a Function of Private Income (Currie definitions); Ezekiel's Figures, Corrected.

ices). By adding these estimates together we obtain the Commerce estimates of individual disposable income given in the table on page 836. A plot of these Commerce estimates of individual saving as a function of disposable income is given in Figure 2. Comparison of this figure with Figure 1 shows marked differences. It is of particular interest that in Figure 2 the points for 1931 and 1932 lie above the points for 1933 to 1935 instead of below, indicating a persistence in habits of saving rather than in habits of consumption spending.

The differences between Figures 1 and 2 are due not so much to the fact that corporate saving is included in Figure 1 as to a difference in the definitions of individual saving used. The Currie definition of saving, used in Figure 1, includes increase in outstanding consumer credit whereas the Commerce definition, used in Figure 2, does not. If we add the consumer credit term, as given in the table, to the Commerce estimates of individual saving, we obtain

[3] Milton Gilbert and R. B. Bangs, "Preliminary Estimates of Gross National Product, 1929-41," *Survey of Current Business,* May, 1942, p. 12.

INDIVIDUAL SAVING AND DISPOSABLE INCOME
(in billion dollars)

Year	Individual Disposable Income		Individual Saving			Consumer Credit: Nugent data
			Without Cons. Credit		With Credit	
	Commerce data	NBER data	Commerce data	NBER data	Commerce data	
1929	82.3	80.8	11.5	9.2	12.3	0.8
1930	74.0	73.5	9.1	5.5	8.3	−0.8
1931	62.8	61.0	8.6	5.2	7.4	−1.2
1932	48.5	47.3	5.5	3.6	4.0	−1.5
1933	46.9	45.1	4.1	2.5	4.1	0.0
1934	53.3	52.4	5.6	3.5	6.2	0.6
1935	58.6	56.8	6.4	6.7	7.4	1.0
1936	67.9	63.5	8.8	10.6	10.2	1.4
1937	71.6	67.9	9.1	9.9	9.9	0.8
1938	65.7	62.4	7.2	6.4	5.7	−1.5
1939	70.6		8.6		9.4	0.8
1940	76.1		9.9		10.8	0.9

the values in Column 6 of the table. These values are plotted in Figure 3. Comparison with Figure 2 shows that inclusion of the consumer credit term inverts the relative position of the points for the years of decreasing income, 1931-32, with reference to those for the years of increasing income, 1934-36,

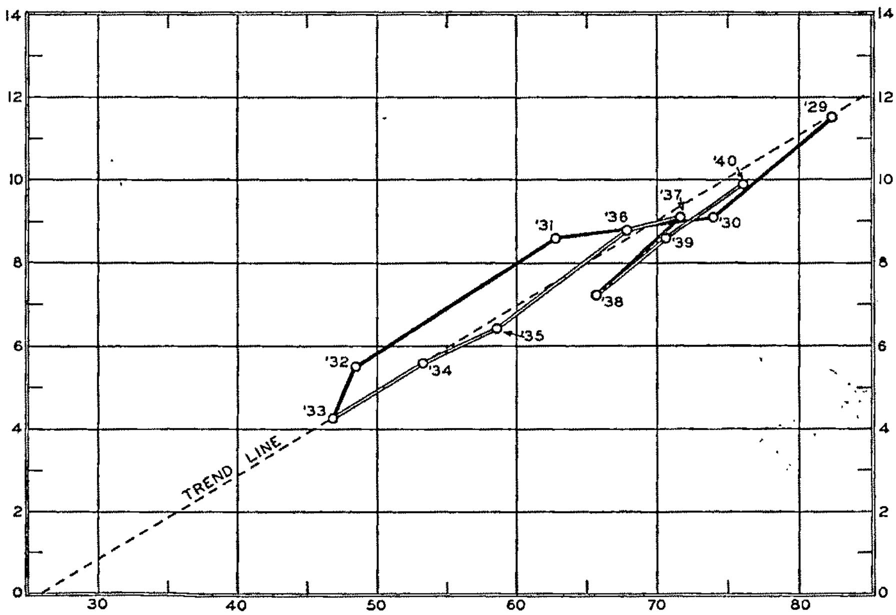

FIG. 2—Individual Saving as a Function of Individual Disposable Income (Commerce definitions); Commerce Estimates, 1942.

so that Figure 3 indicates persistence in habits of consumption spending instead of in habits of saving. Evidently the conclusion to be drawn from the Commerce estimates depends on which definition of individual saving we adopt. As explained in a previous article,[4] the consumer credit term is only apparent saving, saving from the point of view of the consumer, not from that of the economy. The National Bureau of Economic Research,[5] as well as the Department of Commerce, omits this term.

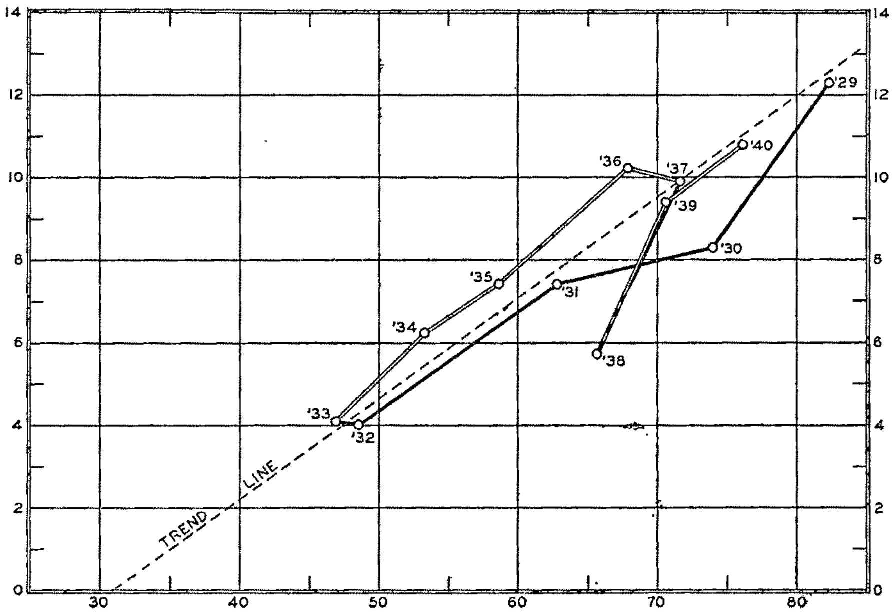

FIG. 3—Individual Saving (Currie definition) as a Function of Individual Disposable Income; Commerce Estimates.

Nugent gives a plot[6] which shows that outstanding consumer credit (capital financing plus income-period financing) increases and decreases in step with national income, which is natural. It follows that the *change* in outstanding consumer credit, that is the consumer credit term, should vary in step with the *change* in national income; and in fact, as the figures in the table show, the estimates for the consumer credit term are negative for the years of decreasing national income and positive for the years of increasing national income. This means that, in years of decreasing national income, instalment

[4] G. S. Fulcher, "Annual Saving and Underspending of the Individuals, 1926-37," *Rev. of Econ. Stat.*, Vol. XXIII (Feb., 1941), p. 40.

[5] Simon Kuznets, *National Income and Its Composition* (New York: Nat. Bur. of Econ. Research, 1941), p. 69.

[6] Rolf Nugent, *Consumer Credit and Economic Stability* (Russell Sage Foundation, 1939), Chart 3, p. 125.

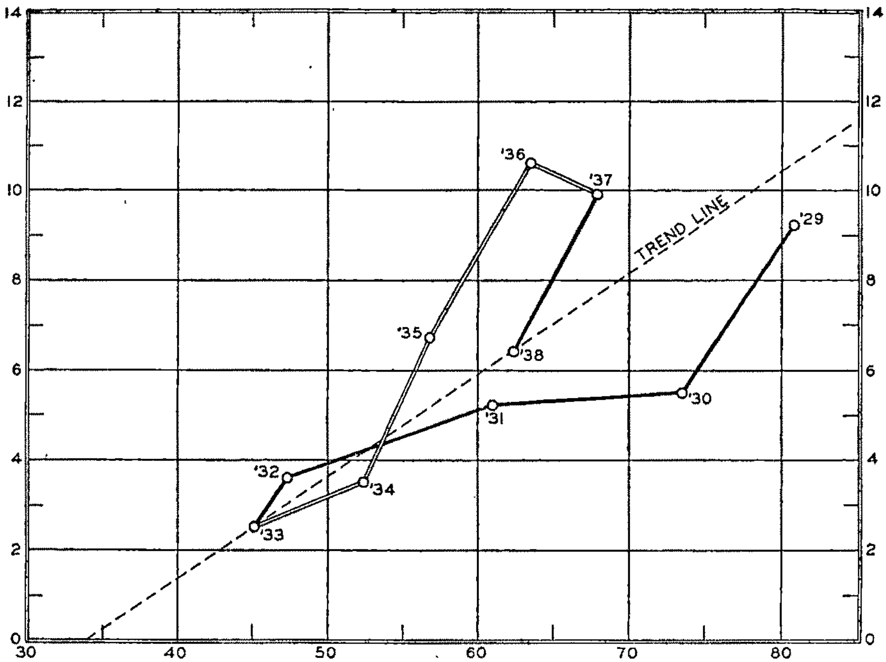

FIG. 4—Individual Saving as a Function of Individual Disposable Income (Commerce definitions); National Bureau of Economics Estimates.

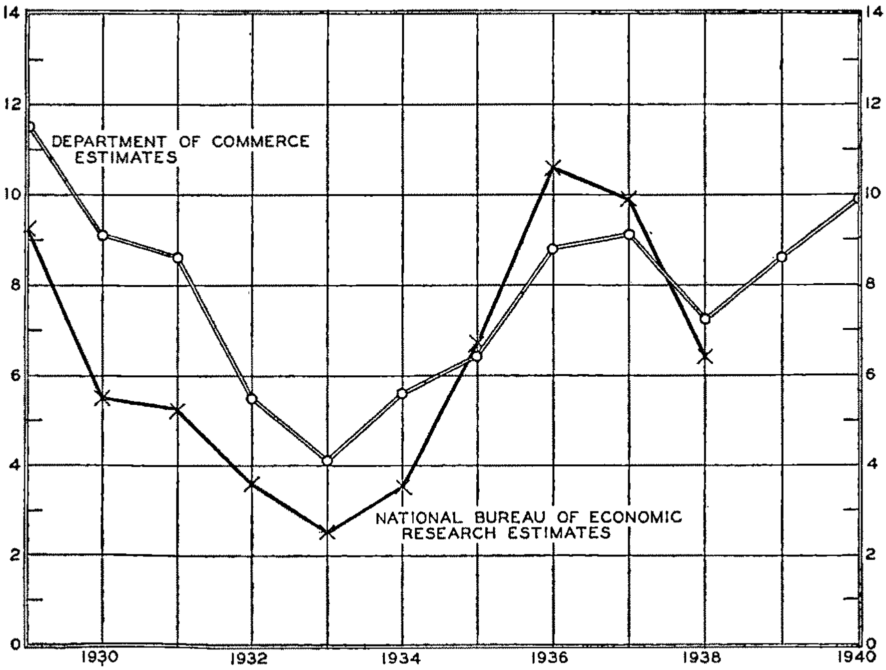

FIG. 5—Individual Saving 1929-40, without Consumer Credit Term.

payments exceed instalment purchases. This would seem to be an indication of persistence in habits of paying instalment debt obligations rather than in habits of consumption spending. The dynamic factor which Ezekiel's analysis of saving seems to disclose is, therefore, merely consumer credit.

For comparison with the Commerce estimates of individual saving, corresponding estimates of the National Bureau of Economic Research may be of interest. The results[7] for individual disposable income and for individual saving are given in the table and are plotted in Figure 4. Finally in Figure 5 are plotted both the Commerce estimates and the N.B.E.R. estimates of individual saving, neither series including the consumer credit term. The differences are so large that, until they have been greatly reduced or explained, it seems useless to attempt to derive an equation for saving as a function of national income or to draw any conclusions other than such general ones as the relation between saving and income brought out by Currie's estimates presented to the Temporary National Economic Committee in 1939.

GORDON S. FULCHER

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Buchanan's Theory of Fluctuations in Business Profits

In the December, 1941, issue of the *Review*[1] Professor Buchanan proposed a "general theory" which accounts for fluctuations in business profits in flexibilities in demand and price as they affect gross income, and the degree of proportional variation of expenses relative to this income. Of prime importance in the explanation of the failure of expenses to vary proportionately with gross income are the arbitrary and illogical accounting methods of the rule of "cost or market whichever is lower" for inventory valuation and the straight-line method of depreciation. Because of this fact, he says, it is time to reëxamine these accounting techniques of the individual concern because of the adverse effect which they have on the total economy.

Both of these accounting techniques, according to Professor Buchanan, augment profits in prosperous years and diminish them in poor ones. It is generally true that in the case where market values at the end of the year are less than cost, accountants may allow, and perhaps erroneously, an external factor of price fluctuation to affect the cost of goods sold, and this practice may accentuate the fluctuation in business profit for that year.[2] The net effect on the profit for a particular year depends, of course, upon whether the beginning inventory was taken at cost or at market prices. Accountants will not, however, understand or agree with his statement that the rule of the "lower of cost or market" augments profits in periods of rising prices (p. 738).

[7] Details of the calculations, based largely on Kuznets, *op. cit.*, will be furnished by the writer on request.

[1] N. S. Buchanan, "Toward a Theory of Fluctuations in Business Profits," *Am. Econ. Rev.*, Vol. XXXI (Dec., 1941), pp. 731-53.

[2] This external factor of price fluctuation could easily be kept out of the regular operations by the use of a valuation account and the treatment of the loss as a non-operating item.

I take his statement to mean that if market values are higher than cost at the end of a certain year, and if the inventory is taken at cost, this profit is actually reflected in the next year's operations. What actually takes place is the postponement of the time for taking the profit until the next year when the goods are sold and the profit is realized. If a certain grocer, for example, found at the end of 1941 that the actual market value of his goods was $100,000 more than cost, profits would not be augmented by placing the profit in 1942 rather than in 1941. If prices rise over a number of years, there is a lag in the effect of these prices on reported profits. If prices are higher than cost at the beginning of the year, and there is a sudden decline during the year, and inventory is taken at market rather than cost at the end of the year, the effect on profits for the year is less than the actual change in market prices which has taken place. In such instances, the conservative rule might even tend to distribute or soften the effect of price fluctuations. If prices decline for a long period of years, except for the first year the relative effect of the rule is in proportion to the change in the price level but not more.[3]

The fundamental question with regard to fixed expense is whether or not costs do vary according to the rate at which a business is operated with a certain amount of plant and equipment. If the life of a machine is determined by the number of units which it will produce or by the labor hours, and production varies between periods, then the straight-line method should not be used. The case is not so clear when time rather than use is the decisive factor. Due to obsolescence a machine might have a life of only five years regardless of the volume of production. Depreciation of this kind is not related indirectly to either the gross or net income. Furthermore, gross income for future years is too often affected by unpredictable factors entirely external to the business. Depreciation is only one of many expenses which may have this character. It might be safer to use convenient and perhaps crude methods rather than to attempt to defer such expenses as interest on indebtedness, rentals, or management salaries into later years because, let us say, prices are falling and income is declining. As I see it, economic theory supports rather than contradicts this idea that some expenses of a firm are relatively fixed.

The variables selected and an analysis only in terms of current dollars seem to obscure many important factors in what may be called a "general theory" of cyclical fluctuations.[4] We are satisfied that gross income does vary widely between industries, but the term "flexibility of demand" does not tell us much more than this.[5] Maybe some of this variation is somehow bound up with that imp "product differentiation." Then, too, when there are inflationary tendencies, the dollars of business profits may not prove to be "real" dollars

[3] I do not attempt to defend the strict logic of taking estimated losses, but not estimated gains. Also, not all the accountants agree to this rule as an acceptable valuation basis. See Paton, *Advanced Accounting* (New York, 1941), p. 154.

[4] Note the many factors listed by R. T. Bowman in his *A Statistical Study of Profits* (Philadelphia, 1934), as trade marks, monopolistic control, lucky orders, geographic locations, and many others. P. 18.

[5] The "income elasticities" include changes in price as well as income received: Buchanan, *Am. Econ. Rev.*, Vol. XXXI, p. 741.

at all. Surely the whole question of the effect of fixed expenses is greatly magnified by large changes in the price level. In times of depression a company may find itself burdened with a vast plant built at high prices and at high costs, and the question of devaluation, not of a method of computing depreciation, becomes fundamental to the life of the business. Receiverships are necessary in some cases because of high rental contracts. The quest for cyclical forces in the accumulation of stocks, lag of costs and prices, output and life of producers' goods, interest rates, and monetary phenomena is the work of many specialists and needs no elaboration here.

Recorded profits influence business men not only on account of their fluctuations, but also on account of the fact that they are generally overstated. I have always thought that the economist's approach to this problem of accounting profits would be that of casting out those elements which are not profits at all. Except in the case of monopoly elements and temporary conditions, perhaps a relatively small amount would be left if there were something approaching a stable price level, and this curious mixture called "business profits" could be properly analyzed and proper allowance could be made for interest on owner's capital, rents, management salaries, and other costs. This approach, it seems, is more in accord with our general body of economic theory than one which depends for its remedial effects upon the fact that the concept of fixed expense is erroneous.

LAWRENCE R. CHENAULT

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Price Control and Rationing

Certain of the recent contributors to the *Review* writing on price control and rationing have ignored what seems to be the most important question of all. Most people concede that the present war will be in part decided by the relative economic efficiency of Germany and the United States. Hence the ultimate criterion of any program for freezing prices and rationing commodities should be its contribution to economic efficiency as judged by wartime needs; *i.e.*, the satisfaction of only the most essential needs of every family or person with a minimum expenditure of resources retained from the war effort. Compared with this it is immaterial if the *prices* of goods rise or fall.

The Administration presumably has no trust in the allocating efficiency of the price system in time of war because of the considerable income inequalities which exist amongst consumers and because contracts based on costs prevent material prices acting as rationers amongst defense firms. The increasingly favored alternative is to distribute agents and final products by direct action methods and to freeze the devitalized prices according to popular dictates. Failing supplies of essential products will then be subsidized.

This cure may be worse than the ailment. The labor cost of bureaucratic allocation is considerable for all concerned. It would be an overly complicated rationing scheme which would ensure the marginal employment of all scarce consumption goods being of equal importance. Obviously, this goal will never

be attained by the granting of equal quantity allowances of scarce commodities because special climatic, occupational, and personal factors render each family's needs peculiar. For this same reason a person can obtain more enjoyment from the unregulated command over a specific value of money and his country's resources than if his claims have to be exercised in some "average" way prescribed by the government. Consequently, taking the nation as a whole, an excessive quantity of productive resources will be lost to the war effort, however low the official standard of living falls. Finally, the granting of a subsidy violates the economic (but not the political) rationale of the price ceiling.

Fortunately the possibilities are not limited to either *laissez-faire* or present and prospective controls of the O.P.A. type. Price changes can be made an ally instead of an outlaw, for shifts in production and consumption can be instigated by altering price relations. Value rations can be used instead of, and are preferable to, commodity rations, because they permit more variation in sumptuary behavior. And if these value rations are lumped into an expenditure allowance, a maximum of flexibility is attained. This effect might be had by means of income taxation, compulsory bond buying, or sales of ration coupons. Over-all controls of this kind, if technically and politically feasible, appear superior to the two other alternatives.

"Practical" administrators in Washington may shrug off these ideas as "classroom theory" and point out that Germany has had a price ceiling since the middle thirties. This reference should injure rather than succor their argument. Professor Singer's articles on the German economy (*vide* the *Economic Journal*) give us fair warning of the confusion and waste attendant on this prolonged usurpation of price functions by the bureaucracy of even a totalitarian state.

STEPHEN ENKE

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BOOK REVIEWS

Economic Theory; General Works

The Theory of Competitive Price. By GEORGE J. STIGLER. (New York: Macmillan. 1942. Pp. vi, 197. $3.00.)

"This is a preliminary edition of a textbook in advanced economic theory. . . . The present volume covers the usual introductory material on methodology and the theory of competition" which the author soon hopes to supplement by sections on "imperfect competition, multiple products, capital theory and certain other topics" (Preface).

Of late, several textbooks have appeared, wholly or mainly on economic theory, which display encouraging improvement in quality. Among them Professor Stigler's *Theory of Competitive Price* is entitled to a prominent place. His material, though he may feel it to be "unoriginal," is certainly not trite. His crisp presentation is sure to hold the interest of the reader and to clear up for the beginner many difficulties which with less efficient teaching he might never overcome at all. A commendable attention to rigorous formulation is wisely tempered with a due regard for the disabilities of that large number of students of economics who so far have not reconciled themselves to the fact that, though the mathematical equipment required for an adequate grasp of the subject is as yet modest, it is hardly possible to do without any.

I wonder why Stigler calls his book "advanced." Recent refinements are hardly hinted at, and practically everything the modern theorist worries about is conspicuous by absence. It is as an introduction on an elementary level that the book has few, if any, peers—as a text, say, for the undergraduate course in theory that follows directly upon the general introductory course in economics (such as Harvard's "Ec. A"). In fact I do not see why the book should not be used for the theoretical parts of the latter: the intellectual effort it calls for is much below that required, at the comparable stage, from the student of theoretical physics, and very few adjustments would suffice to fit it for the task.[1]

So good a performance invites a kind of criticism which a lesser performance is in no danger of meeting and the import of which may easily be misunderstood. I wish to emphasize therefore that my high opinion of the book is entirely unaffected by the comments I am about to make. It is, in fact, precisely that high opinion and my wish to see the book widely used in the future that prompt me to make them.

[1] Some of these adjustments are necessary in any case. The text indicates that it was composed in something of a hurry, and there are many little carelessness in it that a modest amount of additional work could eliminate.

In the first part—Introductory—the fourth chapter deserves particular commendation on pedagogical grounds. The analytic tools which we are in the habit of calling "theory" are formally so similar to one another that it is obviously convenient to display this fact from the outset. This Professor Stigler does, following the example set by Mrs. Robinson, in an extremely adroit manner: the tiro learns right away all he needs to know about total, average, marginal quantities, elasticities, and so on, so that free use can be made of them, and the formal relations between them, later on. The rest of the first part I feel less able to admire, both on account of what I found in it, and of what I failed to find.

I do not know that, at this hour of the day, there is any necessity for the general methodological considerations offered in the first chapter, or why, if we *must* define our field, we should choose a definition which makes strategy a part of economic theory—scarce means, competing ends, maximum of results. Would it not be more enlightened to warn the beginner that the term economic theory covers two different things: models or schemes that are devised for the purpose of clearing up certain points about the pure logic of economic relations—such as necessary and sufficient maximum-minimum conditions—which cannot, or can only with difficulty, be applied to statistical facts; and models or schemes that are precisely devised for the purpose of dealing directly with statistical "regularities," such as the various Tinbergen models? And would it not be well, also, to explain to the beginner—it can be done in a few pages—why and by what routes we have drifted so far away from the Marshall-Wicksell background that looked so satisfactory in 1900 and looks now like an old model-T Ford?

The treatment of Basic Concepts in the second chapter is still less satisfactory.[2] But I will merely suggest that there are better reasons than Professor Stigler seems to admit for defining Statics as the theory of the relations between economic quantities all of which refer to the same point of time, and Dynamics as the theory of the relations between economic quantities referring to different points of time.[3] It seems also desirable to impress upon the beginner's mind the all-important distinction between Statics and Dynamics, which are *methods* of approach, and Stationary and Evolutionary States of the *reality* we investigate. Keynes investigates evolutionary processes by means of a static theory. A stationary process may be analyzed by means of dynamic theory. The work that uses these categories has become too important to be passed by.

The second part, which justifies the title of the book, presents Professor Stigler's basic structure. As far as it goes, it is excellent. The theory of consumers' behavior or households' behavior—I should have preferred this designation of the material of chapters 5 and 6 to "theory of demand"—is entirely freed from survivals of the old utility analysis, and Stigler shows once more how well we can get along without it.[4] I will not, however, suppress a lingering

[2] In particular, it is, to say the least, misleading to make *complete* knowledge a requisite of perfect competition.

[3] This is meant to include also relations containing a time derivative. The above definition is due to Ragnar Frisch.

[4] Why, by the way, is it irrational to go on a spree? P. 66.

doubt as to whether indifference varieties are any more necessary. As Samuelson has shown (and before him, though less stringently, Barone), all we need in order to derive the proper restrictions on households' behavior is a consistency postulate: if I prefer a set of goods A to a set of goods B, I must not at the same time prefer B to A. However, gratitude greatly prevails over doubt when we peruse those chapters.

Then comes the production function (chaps. 7 and 8). It would be well, perhaps, if in later editions (of which I hope, and predict, there will be many) Professor Stigler could see his way to disentangling the discussion of its fundamental properties from the discussion of costs which he now carries on almost concurrently in a way that does not make for clearness. Of course Professor Stigler knows perfectly well how to "descend" from the production function to costs. The logical sequence could, however, stand out better than it does. The opportunity cost theory with which the argument starts would, moreover, greatly benefit from some additional care. Grasp of the distinction between a particular technique and a production function that covers many different techniques is not made any easier by the use of such phrases as "technique *i.e.* the production function" (p. 110), although Stigler dispels (p. 123) any suspicion that such phrases might create. The difficulty raised about the multiple-product production function (p. 110) is entirely imaginary and really amounts to a confusion between two different problems; and I can easily conceive of a more instructive treatment of the falling intervals of average-cost curves.

The ninth chapter—Pricing under Competition—might more purposefully converge toward some rendering of a modernized Walras system, and additional hints at problems of determinateness and stability might not be amiss. The last chapter—Pricing of Productive Services, and not, I am glad to say, "Theory of Distribution"—is a little sketchy. Moreover, it suffers particularly from the fact that, if the theorist wishes to open windows that look out on applied fields—and he is right in trying to do this—such glimpses are not likely to be very satisfactory in themselves. Thus, Stigler declares (p. 187) that the occupational and geographical distribution of workers is a subject on which the economist "has considerable to say" (*sic*). But what follows is hardly of a nature to bear out the expectation raised.

Nevertheless I repeat what I said before: Gratitude and, in places, admiration should prevail over criticism even as regards chapters 7-10. Two questions, however, remain which concern all of us who are teaching theory.

First, should a book or course of this kind start from the perfectly competitive case? Professor Stigler, fully aware of all that can be urged against this *modus procedendi,* makes a strong case for it. With due respect for the weight of his arguments I have to profess myself unconvinced. It is not only that it is bad tactics to do so.[5] Much more important, the com-

[5] It is bad tactics, that is, to use a road on which we do not get anything which we could not get from traveling on another but on which we encounter avoidable antagonism. The point may be illustrated by that unfortunate creation, economic man. There never was a more harmless chap, but why use him, since we do not need him and since the mere

petitive case—which, by the way, Professor Stigler invests with properties that are much too sweepingly formulated—is not a limiting case or norm that embodies the essentials of the working of capitalist society with only "deviations" or "frictions" left out. The deviations from the perfectly competitive schema are themselves of the essence of capitalism and the source of phenomena that would be completely absent in perfectly competitive conditions. Therefore, it is much better to start from imperfectly competitive situations. This carries the additional advantages that a large number of realistic patterns come naturally within the range of theory from the outset and that the proper place is created for the fascinating problem how far they eventually work out in similar ways. If Professor Stigler nevertheless desires to start from a schema of "ideal" resource allocation, I submit that a well-chosen type of socialism qualifies much better for the task. Proceeding on this line, the teacher would have plenty of opportunity for dispelling the naïve—and pernicious—idea that socialism and capitalism each mean just one definite thing that can be embodied in just one definite theoretical model.

Second, should a book or course of this kind really keep forever within the ivory tower of nonmonetary theory? Professor Stigler evidently believes that he is expounding what teachers of economic theory actually do expound. To shake this belief, I will tell him the answer I got from one of the most brilliant theorists in the country when I asked him what he did in his *theory* course: "Oh, I just feed them the Keynesian stuff!" In case Professor Stigler be shocked, I can assure him that so was I. But to "feed" one's class exclusively on Keynes is one thing, and to ignore the monetary—and aggregative—aspect almost completely is another thing. I have thought for some time that, if we agree in anything, we agree in holding that the fundamentals of the monetary mechanism should be introduced on the ground floor of *general* economic theory and that no adequate analytic apparatus can be constructed without them and without either Say's law, or something we may prefer to Say's law. This is not a mere matter of division of labor between texts or courses. So much should be clear from Walras.

JOSEPH A. SCHUMPETER

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The Strength of Nations—A Study in Social Theory. By GEORGE SOULE. (New York: Macmillan. 1942. Pp. 268. $2.50.)

In this work Mr. Soule endeavors to set forth a new basis for social science that will make it more fruitful in solving the pressing problems that confront our world. The book is a significant one which merits the attention of all social scientists—and particularly of economists, because it is with economics and economic matters that it is primarily concerned.

Impressed by the failure of our civilization to provide health, employment, and physical comfort for all the people, Soule believes that it is only through

sight of him makes some of our fellow economists boil with resentment? Professor Stigler rightly keeps away from him.

science that these failures can be overcome. The backwardness of the social sciences in solving these problems is due to the barriers which divide them into separate fields. There must be a synthetic approach, in which a science directed toward the attainment of social welfare will be built upon the foundation of the inorganic and organic sciences. This requires us to recast our conception of the human beings which constitute the basic units of society. Man is not (as the economists have pictured him) a hedonist in a milieu of atomistic competition, but a physical and biological organism existing in a cultural medium, and interacting therewith. Soule then proceeds to a description of human nature in terms of Freudian psychology, which he finds confirmed by physiologists' studies of man's nervous system and the reactions between physiological processes and nervous states. This approach leads naturally to an emphasis on neurotic disturbances caused by the frustrations of an unsatisfactory environment. So the task of social science is to find ways of providing an environment better suited to the emotional needs of human beings.

At this point Soule offers a bold and interesting suggestion that constitutes the heart of his theory, and represents his effort to synthesize inorganic, organic and social science. It is that the emotional and mental processes of man are manifestations of energy similar to heat, electricity, motion, and chemical change; hence, like these, they are subject to the first and second laws of thermodynamics, *viz.*, the principle of conservation of energy and the principle of dissipation of energy. The first of these principles is that energy can be changed from one form to another, but cannot be destroyed; the second is that, in practical uses of energy, some of it escapes and is wasted.

If human beings are characterized by these two principles, it follows that in social problems we are concerned with a process of transformation of energy and wastes or losses in that transformation. This has important practical applications. Since there is in modern society a surplus above the physical necessities of life, there is energy to spare which must somehow find expression. Activity is no longer primitive, unconsciously determined by biological forces; it becomes a matter of deliberate choice, involving purposes or goals. If social health is to be maintained, these goals must be appropriate to human needs, and harmonious with one another. Social science must recognize this, and must find ways of directing into appropriate channels the energy that is released by technical progress. For instance, it must show how the labor displaced by new mechanical inventions can be reëmployed.

This line of thought causes Soule to reject the view that science is not concerned with purposes or ends. In a world of surplus, where the only values are no longer survival values, the social scientist must reveal what are the basic emotional needs of human beings, and in what kind of culture these needs may be better fulfilled than they are at present. For instance, ways may be found for sublimating the aggressive instinct so that it will no longer lead to war; the need for social security can be satisfied; we can avoid frustration caused by the failure of our society to fulfill the promise of America as a land of plenty; and we can find out how to prevent "contagions of emotion," such as the "Nazi epidemic." In developing this phase of his argument,

Soule draws an effective analogy with medicine, which (he rightly observes) has not been any less scientific because it has concerned itself with the practical problems of health. Social science, he feels, should be directed similarly toward promoting the health of the social body. Social scientists should study institutions in the light of their fitness for performing useful functions, just as physicians study the organs of the body. Failure to do this is equivalent to abandoning the treatment of disease to the care of quacks and charlatans.

By way of illustrating his thesis, Soule makes a number of excursions into the field of economics. In a rapid survey of the history of economic thought, he appraises the several schools which have marked its development. Against the classical tradition he levies criticisms that show the influence of Veblen. He finds it tainted in its origins by a naïve belief in the beneficence of natural laws, hence biased in favor of the system of free enterprise; and he believes it to be hampered by the false view that society is atomistically composed of competing individuals who are actuated by hedonistic motives. Its shortcomings are revealed by its inability to account satisfactorily for such phenomena as the activities of speculators in the financial markets, the behavior of monopolists, and the trade union movement. This last, he believes, is more than a mere matter of collective bargaining; it is a manifestation of emotional states, of basic human motives. The historical and institutional schools do not offer a satisfactory substitute for the classical system. Although they have accumulated a great deal of useful factual information, they have failed to develop any significant theoretical generalizations. "We are left, then, with an impasse—on the one hand, a theory without facts, and on the other, facts without a theory! No wonder economic science is in so primitive a state that a troubled world can find little help in it!"

Although much of his discussion of economics is penetrating and judicious, Soule's criticisms do not do justice to neoclassical theory. He does not distinguish this from the classical system out of which it developed, and so he is able to attribute to it all the shortcomings of its predecessor. He errs in holding that the traditional theory value is derived from hedonistic premises. The laws of supply and demand are rooted in what any competent observer can see going on in the world of business, and are not dependent for their validity on any particular system of psychology. The classical writers merely grafted the psychology of hedonism onto their observations of market phenomena because that was the prevailing philosophy of their day. Neither is it true that classical or neoclassical economics is necessarily an apology for the existing order. The fact that many economists have been misled into confusing *explanation* with *justification* does not prove that the two are identical. Marx found in Ricardian doctrine (much of which he accepted) ample basis for a devastating attack on the system of individualism; and there are contemporary economists (including this reviewer) who do not find neoclassical economics at all inconsistent with a belief in the desirability of socialism. Moreover, to demonstrate the shortcomings of classical theory, Soule chooses for illustration such problems as those of irrational speculation and labor agitation, for the interpretation of which it is least suited, slighting those problems of money and price where its technique is most helpful. And he

cites as evidence of its failure the very phenomena of monopolistic competition which have lately been so fruitfully illuminated by deductive analysis of the neoclassical type!

This is not to say that the neoclassical teachings constitute an all-sufficient body of social theory. They do not pretend to go beyond the range of market phenomena. But it is no valid criticism of contemporary economics to point out that it is not coextensive with sociology. Soule apparently wants the line between the various branches of social science obliterated, but it is difficult to see why this is necessary. We do need a synthetic science of society, and it is entirely appropriate that it should take note of economic phenomena; but this does not require that what has already been learned in this field shall be abandoned, nor does it preclude the pursuit of further knowledge in different phases of social behavior by division of labor among the scientists.

It is evident that Soule is dominated by the Freudian conception of human nature. In a work that purports to build its social theory on the broad basis of all the sciences, inorganic and organic, this dominance of a particular school of psychology seems inconsistent. It is doubtful whether the technique of psychoanalysis will serve to comprehend the wide variety of social problems which are crying for solution. For instance, it could illuminate only a small phase of the problem of business depressions and unemployment. But Soule uses it most effectively in the interpretation of certain contemporary developments, notably the rise of totalitarianism.

In a fascinating chapter devoted to the latter topic, he convincingly pictures this movement as a manifestation of neurotic behavior on the part of whole populations, growing out of frustrations in the environment following the First World War, and dominated by a father-image fixation which leads the people to follow blindly such leaders as Hitler and Stalin. In these terms he shows the essential similarity of nazism and communism, and represents them both as totalitarian in that they constitute religious fanatacism that supersedes all other values and tolerates no competition. He believes that the communist movement took this turn because of the faulty psychological principles on which Marxian propaganda was carried forward—its appeal to the emotional superego, instead of the rational ego, of the people. It is a significant interpretation—one which will repay careful reading.

Some critics will scoff at the suggestion that the first and second laws of thermodynamics are applicable to social phenomena. At first thought, the idea seems fantastic; yet the concept that our civilization creates a surplus of energy for which wholesome outlets must be provided is at least a useful analogy, and it may have some basis in physical reality.

Controversial, too, is the view that social science must concern itself with ends or purposes. Clearly, scientists can go too far in maintaining an attitude of detachment; programs of social policy must not be left to amateurs and pressure groups. But can science, as such, say what are the correct goals for society to pursue? Soule believes that it can, by setting forth the criteria of physical and mental health in human beings. The argument is persuasive; but even if it be not accepted, this much, at least, should be possible: If we can find a few broad objectives that by general assent would be regarded

as desirable, science should be able to point the way to their attainment. There is thus an applied science which is as reliable and certain, given the objectives, as pure science; and it is the duty of social scientists, above all, to develop the former as well as the latter.

In an imaginative work like the one before us, that pictures in bold strokes a vista not yet fully matured in the mind of the artist, there is bound to be much that is not clear, much that is questionable. But for all that, the book is a suggestive and stimulating one that represents a decidedly worth while addition to our literature.

RAYMOND T. BYE

University of Pennsylvania

A History of Economic Thought. By ERIC ROLL. Rev. and enl. (New York: Prentice-Hall, Inc. 1942 Pp. xii, 585. $4.00.)

Since good textbooks on the history of economic thought are permanently in demand, Professor Roll's revised and enlarged edition is sure of a hearty welcome. It is a comprehensive and erudite study. It is a readable text, although not comparable in brilliance to the thirty-year-old history by Gide and Rist. Roll's book, however, is also of considerable interest to the specialist in the field, since the author does not feel satisfied with offering a careful summary of the traditional kind. He suggests many new interpretations and takes a decided position in regard to old and current controversies. Because of this ambitious character, his work deserves careful examination.

Roll describes his book as an "introduction to modern theory." Although some will be skeptical of the value of the history of economic thought as a shortcut to the understanding of modern theory, this course is still a prerequisite to almost all graduate curricula. It may, however, be questioned whether a book designed for academic purposes should cover as vast a field as the evolution of economic ideas from the Old Testament prophets to John Maynard Keynes. The economic conceptions of Biblical writers, Greek philosophers and Roman jurists are more adequately appraised by incorporating them in a history of social philosophy. The student of modern economics would doubtless not be disappointed by the omission of some further sections dealing with the Christian fathers, the Schoolmen, and canon law, in order to concentrate on the economic theories developed during the last few centuries.

If we turn from the preliminaries to the core of the study, another more fundamental objection may be raised. In the Introduction, the author pledges himself to a wise principle of selection: apart from the most outstanding economists of the past, only those personalities will be analyzed whose opinions either exemplify different trends of economic thought or have significance in relation to present-day theory and controversy (p. 7). Although the verification of these criteria is a matter of personal value judgment, it may be questioned whether Roll has succeeded in living up to his program.

Take his treatment of mercantilism. Notwithstanding various divergencies of opinion, modern economists generally agree on the proposition that this

broad school of thought was not confined to the British Isles. This, howev
is just the impression which the unsophisticated reader will gather fr
Roll's analysis. He fails adequately to stress the fact that mercantilis
as usually interpreted, was a type of economic reasoning more or less curr
in all European countries from the 16th to the 18th century. Yet, exc
for the Italian Antonio Serra, the author refers only to English writers.
is, therefore, barred from grappling with the deeper problem of how Briti
Dutch and Italian mercantilism differed from contemporary conceptions
Spain, France, Germany and Austria. Roll's preoccupation with English lite
ture goes so far that the leading exponent of interventionist policies in
17th century, the French minister Colbert, finds no place in his picture. T
only reference to the great statesman to be found in the entire book—"t
mercantilist measures of Colbert, designed to foster industry, were usele
(p. 140)—is too sweeping a statement to be a scientific appraisal. Also t
influential and characteristic school of the German Cameralists, so admiral
represented in this country by Albion W. Small, are left out of the pictu
Only incidentally, in his analysis of William Petty, does Roll mention t
group, labeling them as "the pseudo-economist advisers of absolute monarch
(p. 102)—a characterization which may well be deserved but, during an a
of state interventionism and well-established absolute monarchies, is not pa
ticularly significant.

In the opinion of some critical readers, Roll lays himself open to t
further charge of relying too exclusively on the materialistic conception
history. Needless to say, this conception is an efficient tool for interpreti
the essence and the sequence of many economic ideas. Roll, however, tries
open all doors with the same key. Unaware of the limitations of the sup
structure approach, he disregards the more modern notion of the oppos
relationship between institutions and theories, considering ideology as t
active factor, determining both the modes of production and the soci
economic structure. By relying exclusively on the materialistic interpretatio
we are likely to overlook the fact that some economic doctrines have be
developed and passed on to the younger generations without having a
direct relation to practical policies. Some scholarly opinions seem to succe
in living their own lives. For instance, the predilection of one generation
an objective or subjective approach to value theory cannot be fully explain
in terms of economic needs and social tensions. The shortcomings of t
materialistic conception of history become particularly evident when
author employs the same economic and social background as a justificati
for two opposite and contemporary lines of thought, as, for instance, wh
the transition from commercial to industrial capitalism is described as t
determinant of both the mercantilist and the anti-mercantilist theories.

Roll shows a certain taste for extravagant statements. We are told, f
instance, that Petty is the founder of political economy (p. 100); that Malth
was "a reactionary" and "fought a rearguard action" (pp. 225-226); th
James Mill's *Elements of Political Economy* (published in 1821) was "t
last expression of unquestioning faith in the Ricardian School" (p. 146); a
that "Keynes's approach represents a return to classical political econom
(p. 527). We also meet with some striking contradictions: in one chapt

J. B. Say is belittled as "a Continental popularizer of Smith" (p. 215)—incidentally, the usual label in antiquated textbooks—while, in another chapter, he is highly praised as "one of the chief founders of the formalist equilibrium analysis which is the essence of present-day economic theory" (p. 354).

In the final balance, however, these and other deficiencies do not seriously impair the positive contributions of Roll's work.

His masterpiece is the long chapter on Marx. Nowhere does the author proceed with greater care and show deeper insight. Yet it must be said that this chapter is narrower in scope than most other parts of the study. To the author Marx is apparently too high an authority to be exposed to even the most timid objection; Marx is *hors concours*—in contrast to all other famous economists who, as is appropriate in a scientific analysis, are studied in a critical mood and often chided for errors and inconsistencies. Roll does not even shrink from asserting that the well-known break between the first and the third volumes of *Das Kapital*—the reversal of the labor value theory by the theory of the "prices of production"—is only an apparent one or merely one in the eyes of prejudiced critics: it "rests on a misunderstanding of Marx's approach and of the function of his labour theory of value" (p. 307).

Second best is the discussion of the classical system, particularly the theories expounded by the members of the inner circle of the school. The originality and the confusion of Malthus—especially, in his controversy with Ricardo on the accumulation of capital—his anticipation of the modern conception of oversaving and of the spending philosophy are better interpreted than in most recent works.

In the new edition, two former gaps of the study have been closed. One chapter surveys the American contribution, using J. B. Clark and Veblen as typical representatives of two schools of thought. A last chapter introduces the reader in a general but critical way to modern equilibrium discussion and Keynesian philosophy.

FRITZ KARL MANN

American University

Basic Principles of Economics and Their Significance for Public Policy. By HARRY GUNNISON BROWN. (Columbia, Mo.: Lucas Brothers. 1942. Pp. xvii, 542. $3.00.)

Recent books dealing with principles of economics in systematic fashion have tended to polarize about two general types. One, exemplified by such books as those of Meyers and McIsaac and Smith, conveys the impression that economic "science" is a neat, orderly, and systematic discipline. The other, to which Professor Brown's book belongs, attempts to provide a basis for understanding and (with regard to this book especially), for reforming a disorderly economic world plagued by deviltry. The former approach has many merits, but it leaves the student with the impression that however chaotic the world may be, economics is all right. The latter approach is less concerned with neat analysis than with using time-tested economic ideas as a basis for finding economic devils and casting them out.

This dichotomy is undoubtedly overemphasized, but it will perhaps convey a general impression of the present work, which is something of a *magnum opus* drawing liberally from many of the author's previous works and written down to the undergraduate level.

The book is true to the statement in the Preface that it places "chief and large emphasis on the things that have seemed . . . most fundamental theoretically and most significant for the determination of policy" (p. vi). This emphasis, followed throughout the book, includes "a sort of philosophy or defense of the price system (capitalism)—*not a defense of it as it is but an explanation and defense of it as it might be*" (p. vii; italics in the original).

The book is written in lucid style and employs provocative illustrations. It is divided into two parts: "Prices, Price Levels and Trade" and "How the Product Is Shared." It is somewhat disconcerting to find an excellent chapter on "The Determination of Value" in the second part and two pedagogically rather inadequate chapters on prices in the first. How students can understand a discussion of business cycles before they have studied distribution is something of a problem, but this book, like several others, presents business cycles before distribution. In general, however, the book covers the subjects usually found in a text on principles.

As to the value theory, instructors now inured to the elaborate apparatus of modern limited competition theory will find a conspicuous absence of diagrams as well as the absence of anything but a bare mention of monopolistic competition analysis itself even in literary form. Likewise the distribution theory presented is strictly of the pre-Cambridge variety, and so far as the treatment of interest is concerned, the efforts of Mr. Keynes and his disciples receive no recognition.

The author's views on the single tax are too well known to require comment. It is to be doubted, however, that their importance warrants devoting 17 per cent of the space to arguments for, and refutation of arguments against, this program, however admirable the exposition may be.

The chapter on business cycles will be found confusing to many students, and it is perhaps the least satisfying in the book—a statement true of most books on principles. The savings-investment problem is "solved" in typically classical manner; "persons who save nevertheless spend as effectively as those who are extravagant" (p. 91). Business depression can be reversed apparently by a general fall in the price level, or, following the same analysis, by a sufficient increase in the "volume of circulating medium." Rejection of underconsumption theories is, for the author, a most satisfactory test of whether one understands economic principles (p. 130).

In general, the treatment of most problems is strongly neoclassical. The book is shot through with implicit assumptions of long-run and full employment, and with the practice of proceeding directly from analysis based on such assumptions to real world problems. It is questionable pedagogy also to employ to any extent the old gold analyses in discussions of monetary problems. In too many instances (to this reviewer's taste) the author misses the chance to generalize the theory.

What is the significance for public policy of the principles expounded?

The possibility of a planned economy on a democratic basis is early rejected as being "extremely doubtful." Nowhere does the author demonstrate that theoretically, at least, such an economy is quite possible—perhaps as much so as "capitalism as it might be." He does not, as did Taylor and later Lange, use the planned economy device as a method of demonstrating that the formal solution of value and distribution problems is essentially the same in planned and ideally competitive societies. The author is concerned mostly with criticizing "planning" in the interventionist sense and his arguments along these lines are usually convincing.

The major applications of principles in this book are therefore directed toward removing evils of our capitalist society. To accomplish this purpose it is first necessary to educate the public in order to destroy the harmful influence of some politicians and many charlatans. This is, of course, the major purpose of the book. So educated, the public should eliminate industrial and trade union monopolies and restraints, establish free or less restricted international trade, combat business depression by Federal Reserve policy, and raise a major part of our government revenues from a tax on land rent.

As for easing the transitional effects of a policy aimed at restoring competition while at the same time satisfying the desire for security without impeding the transition, no program is offered. Preoccupation with policies which will produce the desired results only in the long run gives the book a Spartan character which will chill the interest and enthusiasm with which many reform-bent students take up the study of economics. It is far to be preferred that we channel this attitude and build upon it instead of rejecting it almost at the outset. There is a real question whether unwise policies in public affairs have not resulted at least in part from the failure of "sound" economists to indicate more palatable solutions to some of our problems. The rigors of the desired competitive adjustment can be avoided, for instance, by a program of subsidies which fosters rather than retards the desired outcome. We are employing such devices in war; why not in peace? With such possibilities this book is not concerned.

The book on economic principles appropriate to the post-war world is yet to be written. Those who attempt it must start with a discussion of economic relationships which follow necessarily from the problem of scarcity and which are not explicitly or implicitly postulated on a capitalist economy. Basic general relationships must then be adapted to particular institutional patterns, of which a centrally directed economy must be one. There are elements of this approach in Professor Brown's book, as indeed there are in classical economics.

Those who write books on principles should read Professor Brown's. His chapter on "Prejudice *versus* Science," together with remarks in a similar vein scattered through the book, constitute a wholly desirable preface to any principles course. His concern with applying economic analysis to current problems must be shared; to present the tools of analysis without instruction and example as to how they are to be used is a teaching job only half done. His method of exposition is clear and thorough, and his elimination of geometric apparatus is to be preferred to the unskilled use to which

it is often put. Instruction in economic principles has become, and must become to a greater extent, a project in mass education. Textbooks now more than ever must reflect the purpose for which they are to be used. May we have more books which, like Professor Brown's, couragously accept the challenge to write along these lines.

ALFRED C. NEAL

Brown University

Engineering Economic Analysis. By CLARENCE E. BULLINGER. (New York: McGraw-Hill. 1942. Pp. xi, 359. $3.50.)

This is a textbook covering a wide field. In developing engineering cost analysis, the author found it necessary to discuss to some extent such underlying subjects as accounting, financial mathematics, and the technique of valuation and appraisals, these being necessary tools in the work of cost analysis. Two sentences from the announcement on the jacket accurately characterize the book: "The chief aim of this text on cost analysis, as applied to engineering projects, is to give students an understanding of the economic factors which are present in the engineering process. . . . The book shows that the whole economic picture of an engineering project is not complete unless viewed from three angles: the economic or dollars and cents angle, the intangible or judgment factors angle, and the financial or 'can it be financed angle.' "

The book is intended for use in undergraduate courses in engineering. It is organized with the aim of developing in the engineering student ability to make proper analyses of engineering projects when the question to be answered is: "Will it pay?"

An introductory chapter discusses the general problem of cost analysis of an engineering project. The remainder of the book is in four parts. Part I deals with what the author calls "The Economy Analysis." It discusses development and promotion costs, construction cost and development, depreciation and depletion costs, valuations and appraisals, cost patterns, estimating first and operating costs, economic return and yield on investment, and criteria for making decisions.

Part II, "The Intangible Analysis," attempts to discuss rather briefly the factors which, the author says, it is found impossible to express in concrete mathematical figures or money values. The subjects dealt with under this heading range from consumer preference to business ethics.

Part III deals with the financial analysis of a project—what funds are needed, what sources and methods of obtaining funds are available, and what financial structure should be designed.

Part IV, "Special Methods and Applications," discusses the use of the break-even chart, standard costs (very briefly), some economic characteristics of power equipment, increment costs (the out-of-pocket costs involved in extending a project), and a variety of problems involving directly and indirectly, the use of compound interest formulas.

Appendices contain interest formulas and their derivation, compound interest tables, and a bibliography.

The book should be found generally well adapted for its purpose. Obviously when such a broad field must be covered in what will usually be a one-semester course, none of the topics can be treated exhaustively and some must be sketched very, very lightly. There is, however, a good assortment of illustrative numerical examples as well as a wide variety of problems to be solved by the student.

The reviewer has some doubt as to the wisdom of the sharp separation which the author has attempted between the "economic" factors and the "intangible" or judgment factors. After all, nearly every numerical value entering into the estimated cost of a *project* contains a large element of guesswork, while many of the so-called intangibles are susceptible of expression in numerical terms, even if not with a close approach to precision.

A more emphatic and continual emphasis on the non-precise character of nearly all the data employed in estimates concerning projects not yet in actual operation would add to the value of the book. As an example of what is meant, the author defines first cost of a project or enterprise as the sum of development, promotion, and construction costs. He defines investment in a project as the sum-total of first cost plus circulating capital. This takes no account of the sometimes very large accumulation of deficits over a considerable period which may occur by reason either of necessary changes in equipment and organization or slowness in development of an adequate market. Admittedly, any *a priori* estimate of such deficits involves a wide margin of possible error, but to answer the question, "Will it pay?" one must recognize that such deficits may occur and that if they do so they become a part of the real investment of funds in the enterprise. In estimating such deficits, the opportunity cost, the loss of income which could have been obtained from the best available alternative investment, must be added to the out-of-pocket costs. This involves a wide uncertainty concerning the proper rate of return to be assumed.

Opportunity cost is nowhere mentioned in the book. The nearest approach to recognition of opportunity cost is the addition to costs of an "expected" yield on investment in problems having to do with replacement of equipment which is obsolescent but not yet physically worn out. "Expected" return is defined as that which the management regards as a "proper" return for its type of business. As to the size of these "expected" yields, the late C. E. Knoepel, management engineer, is quoted as considering 9 per cent a minimum requirement and 15 per cent the desirable requirement. In illustrative problems, the author usually assumes 8 per cent. Obviously all these rates are considerably higher than the usual opportunity cost of capital investment.

Throughout the book, emphasis is placed on "expected return from investment" or "fair rate of return," or "return to which the investor is entitled." This indicates an attitude of mind which has received much support from the decisions of the courts in rate cases. Yet in a book entitled *Economic Analysis,* it seems somewhat unfortunate that there should be failure to point out and to emphasize that, under the theory of free enterprise, no investor is

"entitled" to any return whatever by mere reason of having invested. It should be made clear to the student how it is of the very essence of the system that return should depend on accuracy of forecasting consumers' demands and on the efficiency with which operations looking to the supply of those demands are carried on; that enterprises which fall too far short of meeting these requirements not only do, but in theory should, lose instead of make gains; and that a high rate of return should come only as the automatic reward for better than average performance. The author would perhaps reply to these objections that the book is intended as an aid to young engineers who will not be asked to deal with the types of uncertainty mentioned but will be told by their superiors what rates of return, length of life of equipment, etc., they are to assume. This may be true and yet the reviewer feels that more attention to basic economics would have been an improvement.

In general, the methods of cost analysis employed in this book are those which have become standard, or at least not unusual, practice. There is, however, one striking exception. In estimating the relative advantage of replacing used or obsolescent equipment or of retaining it in use to the end of its physical life, it is recommended that the present value of the used equipment be treated as the sum of its salvage value and the cost which would be incurred, by anyone purchasing such equipment, to transport and install it in his own plant. This is surely erroneous reasoning. What one hypothetical competitor might pay for such second-hand equipment installed would rarely if ever in practice affect significantly the seller's competitive situation and then never in the simple way here assumed. The proper value to be assigned to equipment whose replacement is contemplated can be only the net amount which could be obtained from its sale, this net amount being the sale price decreased by any costs incurred by the seller in making the sale and delivering the equipment to the buyer.

In spite of the questions raised above, the book, on the whole, covers very well a part of the field of engineering education which has, until recently, been quite inadequately represented in the standard curriculum of engineering schools.

S. S. GARRETT

Cornell University

Dimensions of Society. By STUART CARTER DODD. (New York: Macmillan. 1942. Pp. ix, 944. $12.00.)

To use *laissez-faire* theory as a focus about which to build economic analysis; to use variation and selection as a pattern about which to construct sociology, biology, and other studies of living organisms; to find some dominant scheme in the array of data examined have been familiar devices used by scholars to enhance their own understanding as well as to simplify knowledge for teaching purposes. Like discovery of the universal law of gravitation, these devices constitute sea anchors that check our drift in the stormy sea of chaotic events and they serve also as guides for further discovery. In

Dimensions of Society, Stuart Carter Dodd brings a keen and imaginative mind to bear upon a somewhat different type of generalization. Rather than seeking to generalize knowledge obtained from the data examined, he turns to the problem of generalizing into a pattern the method of study. He seeks a universal device of methodology for the study of societal data. With interesting results he applies this pattern to several special fields with which he is familiar and in some of which he has previously published original research studies.

Under title of the "S-Theory," he has contrived a system of symbolism based upon the pattern of methodology above indicated. For its detail, the pattern of methodology leans heavily upon familiar statistical methods of analyzing central tendencies, variability, and correlation. His system of symbolism goes further, attempting to classify all societal data into several categories, in order to describe in a very brief space a large set of societal phenomena. Like any system of shorthand it presents a powerful instrument of analysis, but also blocks the way for many who will not have the patience to learn the new language of symbols ingeniously prepared by the author.

The system of symbols is summarized in a geometrical figure called the "Quantic Solid" of S-Theory, which shows how n dimensions may conceivably be used. The figure shows Space, Population, Time, Characteristics, which are the four basic categories. In the Time category, for example, there is T° = static situations; $T^{\pm 1}$ = change, velocities, processes, and T^{-2} = forces, accelerations. Along the characteristic scale, I° = quantitative characteristics, attributes; $I^{\pm 1}$ = quantitative characteristics, indicants; and I^{+2} = correlated characteristics. P° = population situations; $P^{\pm 1}$ = persons and plurals; and P^{+2} = groups, interrelated persons. The three dimensional coincidence in space of P^{+2}, T^{-2}, and I^{+2} gives the point marking the most developed data; that is to say, data that is about forces and accelerations among groups of interrelated persons.

In addition to the development of the S-Theory, the author makes use, in very interesting ways, of vector analysis, path coefficient analysis in correlation, and other geometrical devices. The numerous illustrations of these uses, with excellent diagrams throughout his discussion, constitute a by-product of major interest in an exceptionally good book.

James G. Smith

Princeton University

Economic History

Economic Development in Europe. By Clive Day. (New York: Macmillan. 1942. Pp. xxii, 746. $4.00.)

Economic History of Europe, 1760-1939. By Ernest L. Bogart. (New York: Longmans Green. 1942. Pp. xiii, 734. $4.50.)

These two works by distinguished authors belong in the growing list of recent textbooks on European economic history. Since they show marked dif-

ferences in the method of treatment, it may be worth while to give some detail as to the ground covered and the way in which each writer handles the problems presented.

Professor Day undertakes the large task of describing in a book of less than 750 pages the economic development of Europe since the end of the eleventh century. He considers Europe as a whole in the first 87 pages, in which he brings the story down to 1500. Then he takes up the leading countries separately, allotting almost the same space to England, France, Germany, and Russia. The three closing chapters give about 100 pages to Italy, Spain, and Ireland. The selection of Spain and Ireland is explained in the Preface as coming from the belief that a good way to understand why countries become rich is to study why other countries have become poor.

To assign almost as many pages to Russia as to England will seem strange to some, but it is clear that the vast resources and great population of Russia will give to that country an important rôle in the economic life of the world, no matter what its future organization may be. At the present time students will welcome this convenient summary of Russian economic development as an aid to a better understanding of the communist regime. In its earlier form the book was criticized in the December, 1933, number of this *Review* on the ground that too little attention was given to the period since 1914. Almost 200 pages are now allotted to these recent years. In a work of this kind it is necessary to omit many topics and to treat others more briefly than one would like to do. Each writer has to use his own judgment in making selections from the many possibilities, but one may suggest that it might have been advantageous to use more material from the fields of commerce, money and banking, and public finance, even if this had made it necessary to increase the size of the volume. In regard to commerce, it may well be that the author did not wish to go over again ground which he had already cultivated in his *History of Commerce.*

Professor Day is "more concerned to illustrate the vital processes than to provide the student with a furniture of facts." In reading the book the reviewer gained the impression that more facts are given than might be expected from this statement, and they are well chosen to lend concreteness to th narrative. The author has as another part of his plan "a discussion of the interrelation of economics and politics in history," and this adds to the merit of the volume.

Professor Day is in general careful in the use of data and in his discussion, but since so many topics are treated, it is to be expected that readers will find something with which to disagree. As an illustration, some may object to the way in which the phrase "property rights" is used in a number of places. On page 158 a section is headed, "Property *versus* Persons." That property has any rights or that there is any conflict between property and persons is impossible. What we have always had are the rights of the owners of property and the conflicts between two sets of persons, those who have property and those who have not. This criticism might be considered trivial, and loose usage of this sort might be allowed as a figure of speech, if it did not tend to cause prejudice and confuse issues by creating the impression that one party

in a controversy is not human. Property owners may be very wicked, but they are still men and women. Some few may be very good people. There are also some propertyless persons who are not good. The points which the author is making are no doubt well taken, and would meet with no objection if stated differently. No one will deny that the owners of property have often had too many privileges and those without property too few for the general welfare. The contention here is simply that we deal with the rights of persons, not of things.

Professor Bogart's undertaking differs in important respects from that of Professor Day. The Industrial Revolution is taken as the starting point. The book is divided chronologically into three parts, and each part is given a title to indicate the outstanding characteristic of the period: Part I—1760-1870, The Rise of the Machine; Part II—1870-1914, Economic Rivalries; Part III —1914-1939, Economic and Political Revolution. The chapters in each part deal with agriculture, industry, commerce and commercial policy, transportation, money and banking, labor and the labor movement, population and welfare. In each chapter the author treats in separate sections the course of development in Britain, France, and Germany. There is a final chapter of 35 pages dealing with new forms of economic organization in Russia, Italy, and Germany.

Such an arrangement presents difficulties in treatment. The first is to carry out the plan in such a way that the reader will obtain clear ideas of the general course of economic development, and it is doubtful whether the author has been successful in this respect. Some comparisons are made, but they are likely to be overlooked in studying the details given for the separate countries. The somewhat elaborate classification shown in the chapters supplies a constant temptation to repetition. This is perhaps most striking in dealing with labor. Much of the same material comes up in treating of industry, labor and the labor movement, and population and welfare. The reader may feel that he has before him a series of essays and not a single treatise.

Repetitions are more numerous than would be necessary even in carrying out the plan adopted. As an example, the same quotation from Caprivi occurs on page 288 and page 366. The book is also marred by inaccuracies, many of which are unimportant, but some of which make passages obscure or even misleading. In discussing the improvement in the speed of trains in England in the latter part of the nineteenth century, the whole effect is spoiled by a mistake in the distances from London to Edinburgh over the different railways (p. 395). On page 349 we find that Britain imported nearly half of its wheat in 1870 and only a third in 1912. On page 313 it is stated that a steel-making process other than the Bessemer was needed in England because most of the ores contained phosphorus, but on page 330 we find, "Henry Bessemer had solved this problem for Great Britain, but his process was not suitable for the phosphoric ores of Lorraine or even those of Silesia." On page 172 it is said that when the mint ratio of gold and silver is 15 to 1 and the market ratio is 15.21 to 1, the mint is discriminating against silver and it will not be presented for coinage. The statement is made that if the birth rate does not

fall as rapidly as the death rate, net additions to the population will show a decline (p. 463). From the discussion of England's monetary difficulties in 1931, one might gain the impression that the rate of exchange had fallen to $3.40 before the gold standard was abandoned (p. 645).

There are also discrepancies in the statistical material; for example, the number of steam engines in France in 1860 is given on page 82 as 14,936 and on page 210 as nearly 19,000. On page 308 the tonnage of the British merchant marine in 1914 is given as 12,415,000, but it must have been about 19,000,000. The text on page 673 states that the people in Britain were eating less bread and potatoes in 1936 than in 1909-1913, but the accompanying table shows the opposite to be true. A somewhat amusing mistake is that Bismarck's name is consistently misspelled, seven times in the text and in the Index.

It is unfortunate that Professor Bogart does not discuss more fully his position when he states that in the period 1870-1914 the rise in wages in England was due primarily to the strength of the trade unions, and in Germany to state socialism (p. 480). This proposition is put forward incidentally in his explanation of the rise of wages in France, which seems to be based on the marginal productivity theory. It is unlikely that many students of the history of wages, even those who are inclined to attribute great importance to the organization of labor or to governmental action, would be willing to make as strong a statement as that given above. The great increase in productivity must have been the first factor in the increase in wages in both England and Germany.

The reviewer takes issue with Professor Bogart in his view that industrialization in France was hampered by the slight growth in population (p. 334). He seems to be falling in with a trend of thought which has become popular in recent years and is a part of the general pessimism that has prevailed since 1929. We hear a great deal about a "mature economy" and about the slackening of industrial expansion that will come with a stationary population. There is good reason to doubt the validity of this thesis. Common observation upholds the old doctrine that "the consuming power of a community is indefinitely great." It is granted that in a very small population the market for any one commodity may not be large enough to allow the advantages of large-scale production, but that limitation could hardly have been present in France in the latter part of the nineteenth century. A different commercial policy might also have made foreign markets more accessible. It is true that the consumption of staple foods may not show a great increase in a stationary population, and the demand for different manufactures will not expand at the same rate, but taking manufactures and the service industries as a whole, consumption depends more on incomes than on the number of the people. Very few families in the United States would have any trouble in consuming the goods and services that could be bought with $10,000 a year. On the production side it may be argued that expansion cannot take place so rapidly without an increasing labor supply, but we are making great progress in using capital to increase the output of each worker. A comparison of the population of the European countries at different periods with reference to their indus-

trial progress would raise doubts of any causal connection. In 1801 England and Wales had 8,892,536 and France 27,500,000. One might well contend that the most rapid industrial development of France came after the population became almost stationary. Clearly other factors must have made progress slower in that country than in Germany.

The criticisms which have been made should not be taken to mean that the reviewer does not consider Professor Bogart's book valuable. A tremendous amount of material is made available in convenient form. Many interpretations are clear and enlightening. There comes to mind the statement on page 50 of the relation of the labor supply to the development of machine production. One of the most interesting suggestions is brought out in the comparison of the accumulation of capital in England in the period of the Industrial Revolution and in Russia under the Five-Year Plans (p. 697). The simplified situation under an economic dictatorship brings out clearly the essentials of the process, which are not so easy to find in the system of private enterprise. Much help may be obtained from the Russian experience in understanding the nature of spending, saving, and the production of capital. Professor Bogart correctly points to the use of vast numbers of men in the creation of capital instead of finishing goods for consumption as an important cause of the low level of living in both countries in the periods mentioned. The Russians have supplied us with excellent material to illustrate Taussig's theoretical analysis in *Wages and Capital.*

As a general criticism of both the authors under review it is submitted that their treatment of economic development would have been improved if they had given more consideration to the location of industry. Studies of the physiographic and human factors in the establishment and maintenance of industries supply very useful aid in understanding regional history.

Both authors provide bibliographies. Professor Day has suggestions for reading following each chapter, and at the end of the volume authorities are listed for the chapters. Professor Bogart has a general bibliography at the beginning of the book and special bibliographical notes for each chapter.

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Economic Systems; National Economies

The New Belief in the Common Man. By CARL JOACHIM FRIEDRICH. (Boston: Little Brown. 1942. Pp. xiii, 345. $3.00.)

Amid current disillusionments, the announcement of a *New Belief in the Common Man* is designed to strike with revolutionary force. To his fresh discussion of this old subject Professor Friedrich brings his German university training, his keen interest in public administration and his acquaintance with political theory. He defends "democracy," or what is equivalent in his scheme "constitutional government," as the most satisfying creed for free men. But the distinctive feature of his treatment is the contention that democracy can

henceforth safely rest only on "a new belief in the common man" which he has discovered. The tradition of the common man as represented by Jefferson and Jackson is praised but repudiated as too rational a conception. "The new belief" recognizes that the "common man" is moved more by feeling and sentiment than by reason or theory. The "common man" of Professor Friedrich is not a collective term for the mass of mankind but a label for that "common sense" or the "sense for the traditional standards, values and beliefs that gives the common man's judgments stability and consistency" (p. 189). Other theorists of democracy, according to the author, have been elite wolves in sheep's clothing; in fact the intellectuals as a class, whether they have been grouped conventionally as aristocrats or democrats, have all believed in rule and mastery by an elite class. "I know whereof I speak," the author insists, "for I myself have been converted in these past twenty years to a belief in the common man, after being surrounded by the belief in the elite" (p. 270).

What he presents is not so much a "new belief" as a new "common man." He is not the man in the street but rather an abstract phenomenon compounded of several elements: the need of society to establish hierarchies of skills and talent; the ability of the ordinary man through "the instinct of workmanship" to recognize efficiency in any field; his willingness to remain in his humble place in the scheme and to choose between good and bad experts and good and bad policies. In short, Professor Friedrich's democracy is much more or much less than political democracy. No wonder he insists that traditional democracy embodied in the older conception of popular sovereignty and majority rule and frequent elections does not square with "the new belief in the common man." For it may easily happen that the common people, not as they are defined by the author, but as we actually know them, would not evince that sense for the "traditional" standard, and accept that leadership of technologues and civil servants, which assure his so-called stability and consistency in the movement of society.

The author's position recalls one of Burke's eloquent passages: "To be attached to the subdivision, to love the little platoon we belong to in society, is the first principle (the germ as it were) of public affections."

With this premise and through the dexterous use of such ambiguous terms as "functional," "pragmatic," "realistic," "progressive," the author invests the American ideal of democracy, equality and freedom, with a content which reduces the rôle of the common man to his status in medieval times. But, then, to the author the great age of true democracy is the medieval era, for the "medieval constitutional systems" of king and "estates," according to his treatment of history, "provided for the expression of consent by the common men" (pp. 56, 70-71).

While accepting the principle that the ultimate source of all power is in the people, he crosses it with another familiar but more elusive principle that election is not necessarily the best method of securing the representation and smooth functioning of society. It seems we need a "qualified majority," whose purpose would be to check "traditional" Jeffersonian and Jacksonian democracy, that system which another scholar from Germany over a hundred

years ago called "democratic absolutism." Similar crossings and manipulations yield the author also a theory of civil service organization whose test of responsiveness to the needs of the common man is the absence of any revolution that cannot be suppressed.

The author's own "elite" class is to be found in an all-powerful hierarchal civil service in government and business. Its model is the potent German "ministerial bureaucracy" which students have described as "non-responsible." By describing such a civil service for the whole country as "functional," he is enabled to say that he has really no elite or ruling class, that there is no coersive state, but only "a commonwealth of mutual servants," with "a rigid system of *subordination*" (pp. 193, 278). "A man's function determines his rôle in the society" (p. 193). Those who are familiar with medieval social philosophy will here recognize the doctrine that all men should love one another but in their respective places of superiority and inferiority.

The basic outline of his theory the author had already presented in 1932 in a joint study *Responsible Bureaucracy,* especially in the concluding chapter, "A Federative Commonwealth of Mutual Servants." The addition in the present book is Veblen's instinct of workmanship. The only purpose of the instinct appears to be that of a verbal substitute for the author's original doctrine of the responsibility of the bureaucracy. This doctrine consisted essentially of the principle that what "may appear arbitrary and therefore irrational" in the bureaucracy to an outsider "may be completely rational when looked at from within" (p. 14).

The "sense of workmanship" in man, says the author, "complements the so-called common sense" that defines the common man and his rôle (p. 189). It acts to outlaw any development which runs counter to the presumed traditional standards. As such, each man in his "function" or stratified category will always be a check on the inefficiency or arbitrariness in the hierarchal scheme as a hierarchy. So there is in effect little need for much of the popular elective machinery or other familiar methods of responsibility to the public and certainly not for their extension. All this can be better performed by polls, propaganda, and other "informational" procedures which avoid the danger of what the author called elsewhere the despotism of a "popular majority"[1] but keeps the "administration" well informed as to the sentiment and feeling of the mass.

In the author's use of the instinct, careful students of Veblen's work will rather recognize what Veblen called the "perversion of the instinct of workmanship," or "the instinct of sportsmanship."

In short "the new belief in the common man" which the author here richly elaborates with a good deal of verve and miscellaneous learning boils down to a not-so-new reliance upon the well-intentioned administrative aristocrat. Is this perhaps but a deduction by a reader or a speculation based on theoretical considerations? Not so; for Professor Friedrich some years ago was just through praising such a "democracy" as he now urges when it was transformed before his eyes into a totalitarian absolutism. I refer to his writings on Germany between July, 1930, and the beginning of 1933.

[1] *Constitutional Government and Politics* (1937), p. 129.

During a good part of that period President Hindenburg ruled in defiance of the Reichstag by the use of the famous Article 48 of the Weimar Constitution. This article provided that, if the public safety be seriously threatened, the president, with the aid of the armed forces if necessary, can suspend in whole or in part the fundamental liberties of person and property, and rule by decree and ordinance. But President Hindenburg used the article even to put through financial measures. Opposition by the Reichstag, the president met by dissolving it. With Hitler's accession in January, 1933, came the more systematic use of Article 48 for all time, to end the Weimar Republic and maintain the Third Reich.

Yet throughout the entire intervening period, the author vigorously defended Hindenburg's use of Article 48, as making constitutional democracy workable. It might be called at worst, he said, "constitutional dictatorship" or a "truly benevolent despotism"; but this was not real dictatorship, for Hindenburg is "the constitutionally elected President of a democratic republic and he is exercising powers granted by the constitution."

Respectable American scholars saw in the events, especially in the use of Article 48, not democracy and democratic rule but at best an "interregnum." The author, however, charged them in the April, 1933, issue of the *American Political Science Review* with being biased by " 'liberal' prejudice," and with being infected with the unscholarly habit of giving credence to "temporary backstage gossip."

What the critics "failed" to see, he felt, was that along with a president who "has grown old in unswerving loyalty and service to his country," there was the permanent civil service "of high excellence and proven loyalty to the state." The bureaucracy "represents the most traditional aspect of German political life. . . . In difficult times the most traditional and deep rooted elements of a political structure come to the fore; it is in its best established behavior patterns that a nation seeks its salvation." Therefore "in any case Germany will remain a constitutional democratic state with strong socializing tendencies whose backbone will continue to be its professional civil service."[2]

In 1941, in the chapter "Methodology" of his *Constitutional Government and Democracy,* he admitted that the prediction appeared reckless but this was so because he had neglected to state it in the hypothetical form of "other things being equal," of the economists. Such a proviso is "the sign of a scientific sense of the limitation of predicting actual occurrences." His difficulty had been not a "question of exactitude, but of lack of information" (p. 572). Perhaps it was appropriate that the chapter on "Methodology" should contain a summary of *The New Belief in the Common Man.*

It is the fate of few theories to be tested before they are even completely stated. Professor Friedrich, however, clings to his views with emotional loyalty. He fondly refers to his own doctrine as "Christian" and castigates all opposition doctrines as "pagan," a procedure that brings to mind Alexander

[2] "Dictatorship in Germany?" *Foreign Affairs,* Oct. 1930, pp. 127, 132; "The Development of the Executive Power in Germany" in *Am. Pol. Sci. Rev.,* Apr., 1933, pp. 197, 200-201, 203.

Hamilton's proposal to organize a "Christian Constitutional Society" to fight President Jefferson.

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The United States and Civilization. By John U. Nef. (Chicago: Univ. of Chicago Press. 1942. Pp. xvi, 410. $3.00.)

According to the Preface, "The present book is in the nature of an epilogue to . . . a study that I have been making of industrial history in relation to the history of civilization since the Renaissance," to which a number of articles in various journals and the brochure on *Industry and Government in France and England, 1540-1640* (Philadelphia, 1940) are also contributory, although "far the greater part . . . remains to be completed." This "epilogue" is published in advance of the completed work because of "the uncertainty of the times and the apparent relevancy to the issues that confront the United States today," and also because it had been prepared for delivery as a series of lectures under the Charles R. Walgreen Foundation. It is dedicated to President Hutchins, of whom the author says, "Thanks to him, it is at the University of Chicago alone that the important problems with which I have attempted to deal have been seriously and continually raised during the last decade."

Professor Nef is persuaded that the industrial world is facing catastrophe as a result of the breakdown of moral and intellectual guiding principles. In some passages he seems to attribute the prospective reduction of the rate of increase of the national dividend directly to this "moral and intellectual" collapse (*e.g.*, on p. 30), this failure "to master the machine and use it for the highest ends of human existence" (p. 5). Decline in the rate of increase of population also seems to him to sound the knell of mass porduction. "In all probability the pressure exerted by growing population to increase the volume of output in Western Europe and America will be nothing like as great during the hundred years as in the nineteenth century" (p. 47); and in this connection he cites Rostovtzeff's attribution of the collapse of the villa economy to the collapse of the market for wine and olive oil. It is true, he notes, that Professor Rostovtzeff hedged this explanation, and that population growth "has been both cause and effect" (p. 43). Nevertheless for present purposes it is considered only as cause.

This must not be taken for concern. On the contrary, it seems to Professor Nef that we are suffering from "overindustrialization." As he puts it, "Our point is that the emphasis in some countries on machine-made goods and services, on synthetic entertainments, and on the financial structure designed to sell or publicize them, has been carried so far that poor and rich alike are starved for other values which are more inspiring" (p. 53). He is inclined to be somewhat contemptuous of radiators, bathtubs, electric refrigerators, air-conditioning devices, and "the radio sets which some of our contemporaries regard as conspicuous marks of civilized existence" (p. 47).

His contempt reaches to Professor E. L. Thorndike's indices of "goodness of life for good people," especially abundance of dentists. In short, Professor Nef not only assumes and accepts but even seems to relish the prospect of industrial decline. To him, "The hope of the Western peoples would seem to lie in the recognition that their riches, their leisure, and their health have been purchased in recent years at an increasingly heavy price in intelligence, in the sense of individual responsibility, and in the general love of mankind" (p. 61).

Space will not permit a discussion of these points or of Professor Nef's "ends of civilization"—humanism, religion, moral philosophy, and art—or of his educational, economic, democratic, and international "means of approach" to these ends. A few impressions will have to suffice. A considerable part of the space allotted to these subjects, which is the latter three-quarters of the book, seems to be taken up with arguing that beauty and goodness, the sense of individual responsibility and the general love of mankind, are good things of which we do not have enough and imperatively require more. The impression is everywhere conveyed that few people are aware of this, or willing to admit it. This impression is greatly heightened by the antithesis, which is everywhere implied and often stated outright, between bathtubs and beauty, dentists and goodness, as though it were the (temporary) presence of refrigerators and radios in America which is responsible for the absence of art and virtue.

Professor Nef makes this antithesis possible by individualizing beauty, goodness, and the rest, all of which are viewed by him not so much as the cultural achievements of communities as qualities of the individual soul. Even democracy is conceived in terms of "the cultivation of righteousness, knowledge, and beauty." It is this conception of culture as a quality of individuals, apparently, which leads Professor Nef to think of France "with its balance, its finish, its reason," as the nation where, although "after a century of adaptation that began long before the French Revolution, France may be said to have ceased trying to keep up with the other great nations as an industrial power," American expatriates nevertheless "found the greatest painters and the greatest writers"; and to think of America as an artistic and intellectual desert which "is partly the result of the failure of Americans as a people to husband and encourage such artistic and intellectual strength as they possess." In the same spirit he can reject the testing of all theories by facts in favor of "intuition" (p. 117) and even declare that "without the existence of some sort of authority in moral and intellectual matters, there is no check on the authority of political rulers" (p. 98).

What is the drift of this way of thinking? Professor Nef has protested that we must not "regard as totalitarian every attempt to establish the authority of human wisdom" (p. 96). The distinction is obvious between ideas and the physical violence which Professor Nef sincerely abhors. But, if, as he believes, "the danger of a sudden collapse seems to be more on our side than on that of totalitarianism"; if it is true that "Less imbued than the peoples who have enjoyed a long experience of constitutional government

with the illusion that material progress will bring with it all the good things of life, the totalitarians have found it easier to cast out this illusion than have the more democratic countries" (p. 106); then constitutionalism and democracy, no less than material progress, must mean something very different from what most of us had supposed. To many people it seems highly significant that the material conquest of North America has in fact been followed by a very considerable degree of cultural maturity, and that constitutionalism and democracy are in a fair way to prove their superior toughness and solidity. Professor Nef abhors "pragmatism" and the test of experience, to which he opposes "faith" (pp. 183 *ff.*). This, surely, is the totalitarian state of mind. Professor Nef's faith is not that of Hitler or Stalin, but neither are those of Hitler or Stalin identical. They do have something in common, and that something—the *a priori* way of thinking—Professor Nef seems to share and advocate.

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An Economic Survey of the Pacific Area. Part I. *Population and Land Utilization.* By Karl J. Pelzer. Part II. *Transportation and Trade.* By Katrine R. C. Greene and Joseph D. Phillips. Part III. *Industrialization of the Western Pacific.* By Kate L. Mitchell. I.P.R. inquiry ser. (New York: Internat. Secretariat, Inst. of Pacific Relations. 1941 and 1942. Pp. xv, 215; xiv, 208; xvii, 322. $2.00; $2.00; $2.50.)

These three monographs, constituting *An Economic Survey of the Pacific Area,* were designed to supplement and bring up to date important sections of the *Economic Handbook of the Pacific Area* published by the Institute of Pacific Relations in 1934. The *Handbook* was extremely useful to scholars interested in the Far East because it made it possible for them to obtain in convenient form comparative statistical data on population, land utilization, food production and consumption, transportation, public finance, capital movements, trade and international mineral, agricultural, and textile products in the Pacific Area. It presented with more detail for the area covered the kind of information on territory, population, production, consumption, trade and public finance which is to be found in the Statistical Year-Book published annually by the League of Nations. There was somewhat more text but the statistical tables and the explanatory notes were the main contribution. The materials upon which the tables were based were often faulty and inadequate but they were the best available and were supplemented by the estimates of various "experts." For the most part these statistical tables did not go beyond the year 1932 and it was highly desirable that they be brought up to date. This new work was begun under Frederick V. Field, editor of the *Handbook,* and carried on by various members of the research staff of the Institute. All three volumes were completed before Pearl Harbor, but Volume III was not published until after the attack on the United States by Japan.

Volumes I and II carry on the tradition of the *Handbook* in that they present copious statistical information on population, land utilization, transportation, and trade with brief factual introductions and explanatory notes as to the inadequacy and noncomparability of much of the data. There are summary tables for the Pacific Area as a whole, followed by a more detailed treatment for each country or colony. The nations, colonies or territories directly treated in this survey are Japan Proper, Korea and Formosa, Manchuria, China, French Indo-China, Thailand, the colonies forming British Malaya, the Netherlands Indies, the Philippines, Australia, New Zealand, Canada, the United States of America, and the Union of Soviet Socialist Republics.

Volume III—*Industrialization of the Western Pacific*—differs from the two preceding volumes both in method and in area covered. Miss Mitchell attempts to describe and interpret the extent and nature of industrial development in Eastern Asia and the Southern Pacific. Her interpretation has been much influenced by the Marxian theory of imperialism. The factual material on industrialization is neither as complete or as well documented as that on population, transportation and trade. Miss Mitchell's study covers the Western Pacific rather than the whole Pacific area. It omits Canada and the United States but includes India and Burma, though they are not strictly Far Eastern countries, because their economic development has much in common with that of the colonial and semi-colonial areas in the Far East; the Soviet Far East is omitted because it does not fit into the economic and political pattern of the region. It is also probable that it is extremely difficult to obtain quantitative information on industrialization in the Soviet Far East.

Mr. Pelzer's monograph contains two long chapters of which the first is concerned with population and the second with land utilization and land tenure. Such familiar population problems as geographical distribution and density, growth, age and occupational distribution, urbanization and migration are outlined in comparative tables for the whole Pacific area and then in more detail for each country or colony. He does not attempt to use the more refined measures of population growth (fertility rates and net reproduction rates) because they can be derived only for countries with adequate statistics; but he points out that Kuczynski's net reproduction rates based on pre-war figures indicate a tendency toward a declining population in Austrialia, New Zealand, and the United States, toward a stationary population in Canada, and toward a continued increase of the population in Japan and the U.S.S.R. It so happens that in those four countries (Australia, Canada, New Zealand and the United States) in which population will decline unless present trends are reversed, the density of population is low, all immigration is restricted, and oriental immigration is either by law or in fact prohibited.

In his second chapter on land utilization and land tenure, Mr. Pelzer presents data on cultivated and forest areas, crop acreage, land ownership, size of land holdings, tenancy and types of farming. Of the countries in the Pacific area, Japan is the most densely settled, followed by the Philippine Islands, China, British Malaya and the Netherlands Indies. In spite of this high population density, agriculture is still the main occupation of nearly half the population

of Japan and of an even larger proportion in the other countries mentioned. It is not surprising, therefore, that throughout this area agriculture is very intensive, the average land holding very small, agricultural distress is often acute, and conditions of land tenure far from satisfactory.

In the first part of Volume II, Miss Greene considers four types of transportation—shipping, railways, highways and motor vehicles, and airways. She points out that Japan is the only country in the Far East which is a large owner and operator of shipping fleets and international air services and that the Japanese merchant fleet at the outbreak of war consisted of fast, modern vessels with a larger proportion under seven years of age than in any other maritime fleet. Japan, Formosa and the United States have both the most extended railway networks and the most extensive highway systems (in relation to area) of any Pacific countries, but the number of automotive vehicles per person is highest in the United States, New Zealand, Canada and Australia. The increase in railway mileage in Manchuria in recent years has been very rapid and by 1939 the total exceeded that for China Proper. The fact that Japan possessed extensive transportation facilities and had developed heavy industries which did not exist elsewhere in the Far East gave her a decided advantage in the first year of the war against the United Nations. Following the introductory section, there are detailed statistical tables covering the shipping, railways, highways, motor vehicles and airways of each of the Pacific countries.

The foreign trade of the Pacific Area is discussed by Mr. Phillips in the second part of Volume II. There is a brief but competent description of trade controls in each of the countries and colonial territories bordering on the Pacific, followed by statistical tables outlining the trade of each of these areas by commodities and by countries of origin and destination for the years 1909-13 (average) to 1939.

Miss Mitchell's work on the industrialization of the Western Pacific differs from the two preceding volumes in that it attempts to be interpretive as well as factual and therein, because of the author's very strong political (pro-Marxian and pro-Soviet) convictions, lies its weakness. To the layman it may seem that facts are facts, but the professional economist or historian knows that two authors confronted with the same data may arrive at diametrically opposed conclusions because they must select from the facts, they must interpret against a background, and they may base conclusions on apparently exact statistical measures when the original statistical materials are incomplete and faulty. The persistent underestimation of Japanese strength in the economic, as well as the military sphere, was the consequence of too much wishful thinking and too little sound scholarship on the part of the Far Eastern experts. In fairness to Miss Mitchell, it must be admitted that this was a very common failing, and that her work suffers from it rather less than the work of many others.

She shows clearly that there was no heavy industry and comparatively little large-scale light industry in China or in any of the colonial areas in the Western Pacific; that there was a beginning of heavy industry in Australia and India where the movement was immensely accelerated by the outbreak of the

war in Europe; and that only in Japan and in Japanese controlled territory (Korea and Manchuria) was there a heavy industry capable of producing the arms, ammunition, tanks, planes and ships required by modern warfare. The industrial backwardness of this great region which contains about one-half the world's population is attributed to its colonial or semi-colonial status and to the policies of the imperialist powers.

Miss Mitchell completely absolves Russia from any territorial or imperialist ambitions. On pages 5 and 6, she states: "The history of the Far East since the closing years of the nineteenth century has been marked by an intense rivalry among several great powers for control of the resources and markets of the less developed industrial areas. . . . There have been many phases to this struggle, ranging from the military aggression of Japan to the defensive political and economic maneuvers of the United States in her efforts to maintain the Open Door not only in China but throughout the Far East. The rôle of the Soviet Union throughout has been unique in that it has been purely strategic, since the U.S.S.R. has no capital investments and no territorial, economic, or political concessions in any of the countries under discussion." On this point, it is interesting to compare the experts. Professor Quigley, in a volume which was published at just about the same time, commented rather unfavorably on Soviet criticism of the imperialist powers:

> The Soviet Union failed to live up to the standards of international conduct which it prescribed for other states. With cynical realism it not only maintained the Russian hold upon northern Manchuria but it also established a system of control over Outer Mongolia far more complete than the Tsars had enjoyed and extended its influence in a decisive degree over Sinkiang. Together these areas comprise one and one-third million square miles, nearly a third of the Chinese Empire. In Outer Mongolia the Soviets assisted in setting up a revolutionary government of "Young Mongols" along Communist lines. With the U.S.S.R. alone has the Mongolian People's Republic had diplomatic relations and it has been called an all but avowed member of the Soviet Union. Soviet penetration of Sinkiang is essentially economic in character, but has been pursued through political arrangements with the provincial government. Chinese government and trade in Sinkiang exist only on sufferance.[1]

When the experts differ as much as this, and when such differences vitally influence the selection and interpretation of facts, it is not surprising that the public is confused and inclined to believe what it is pleasant to believe—that the enemy is weak, that Germany can be defeated by a blockade, that Japan can be brought to her knees by economic sanctions, that the United States can insure victory for the democracies by methods short of war.

The weakest part of Miss Mitchell's book is her treatment of Japan and Japanese controlled territory. This part of her work appears to be an afterthought. She relies largely on secondary sources such as the *Japan Year Book* and the *Japan-Manchoukuo Year Book* which are not official publications and which contain many errors. It is sometimes necessary to use them for recent years when official publications were either delayed or not published for strategic reasons, but most official reports were available through 1937 and many through 1938 and 1939.

The author permits her dislike of the Japanese military to blind her to the

[1] H. S. Quigley, *Far Eastern War, 1937-1941* (Boston, World Peace Found., 1942), p. 48.

fact that Japan was developing a very efficient war economy with the same social sacrifices which a war economy imposes under democratic and totalitarian regimes alike. For example, she failed to appreciate the extent to which Japanese war industry was already depending on raw materials from East Asia and the South Seas. The iron industry and the very important aluminum industry were cases in point. Japan had no aluminum industry before 1934, but built it up rapidly after the outbreak of the China Incident. One index of this activity, the export of bauxite from the Netherlands Indies to Japan, is not mentioned at all although it amounted to more than 200,000 tons a year in 1939 and 1940, whereas the very much smaller export from Malaya is commented upon (p. 181).

Similarly the problems which arise in every country engaged in total war—an insufficient supply of skilled labor, rising living costs, civilian rationing, scarcity of strategic materials—are often treated as though they were something peculiar to Japan and indicative of great weakness. On these points, the author is usually quoting the conclusions of other economists. The discussion of wartime productivity in Japan on pages 41 and 42 is based on an article by Gragdanzev[2] which has been widely quoted as part of the story of Japan's weakness. This is a case where inadequate statistics are carelessly used to paint a picture which seems exact because definite percentage figures are given. The conclusions are largely invalidated by the fact that the production index used does not include much of the output of the armament and munitions industries, whereas the employment index used does include workers in those industries. Even if this were not so, the method of base-year weighting used in the construction of the production index results in a downward bias in a period in which industrial activity shifted very rapidly from a situation where consumers' goods were predominant to one where producers' goods and the products of heavy industry were predominant. This does not prove that there was no decline in productivity in Japanese industry, but merely that Mr. Gragdanzev does not prove the reverse. Such proof, one way or another, is impossible on the basis of the data available.

This general criticism of the interpretive side of Miss Mitchell's work has been treated at some length because it applies to a great many of the economic conclusions on Japan published in the *Far Eastern Survey*, an Institute of Pacific Relations publication, and in *Amerasia*, an independent publication of which Miss Mitchell and other members of the staff of the Institute are editors. These and other similar publications have played a substantial part in misleading the American public and to some extent the Administration as to the economic strength of Japan.

Volumes I and II and those parts of Miss Mitchell's volume which deal with China and the colonial areas contain much useful factual material not available elsewhere in convenient form, as is true of several other volumes in this Inquiry Series.

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[2] A. Gragdanzev, "Japan's Industrial Output Slackens," *Far Eastern Survey*, April 7, 1941.

Aspects of Japanese Agriculture: A Preliminary Survey. By SHIROSHI NASU. I.P.R. internat. research series. (New York: Inst. of Pacific Relations. 1941. Pp. ix, 168. $1.50.)

A scientific analysis of Japanese agriculture, prepared by an outstanding authority and issued in this country about the time Japan struck at Pearl Harbor, is of special significance during the war period. As the title indicates, the work represents an interim report on a long-term study, conducted by Professor Nasu for the International Secretariat of the Institute of Pacific Relations. An earlier report by the same author, published in 1929 under the title *Land Utilization in Japan,* has been long out of print. Wartime censorship has prevented detailed treatment of changes in Japanese agriculture and rural life during the period since 1937. Of 171 tables illustrating the text, 6 have been omitted, while a number of those included do not cover the later years of the past decade.

Despite the gaps thus left in the more recent data, the work constitutes a solid piece of analytical presentation, summarizing the results of years of painstaking research in a specialized field not sufficiently known in this country. An introductory chapter on the social conditions of land utilization in Japan is followed by a chapter on geography, climate, geology and soils. Three chapters deal with the distribution of land resources according to use, the outstanding features and regional characteristics of Japanese agriculture, and the utilization of forest and waste land. The utilization of cultivated land is considered under the headings of changes in cultivated area and the rate of exploitation, annual frequency of utilization, and productive power of cultivated land. The last three chapters treat of profits and the price of land, the farmers' living conditions, and land utilization with respect to the agricultural population and the food supply. Although the greater part of the study is devoted to Japan Proper, there are concluding sections to a number of the chapters which give summary treatment to conditions in Korea and Formosa.

To a considerable extent, the facts adduced by Professor Nasu tend to build up the case which is normally advanced for Japanese expansion—the overcrowding of the islands and consequent pressure on scanty natural resources. Table 2 shows population per square kilometer of cultivated land in 1938 as 1,184 in Japan compared with 913 in Northern Ireland, the closest competitor. Japanese soils are poor, being especially deficient in lime. Animal husbandry is relatively undeveloped, largely because the grazing area is insufficient, and fish supplants meat in the Japanese diet. The exploitation of land "has virtually reached the limit, leaving little room for further reclamation even with highly expensive and thoughtful assistance from the government" (p. 77). The intensity of utilization of land, or its "annual frequency," is high, exceeding 100 per cent in all prefectures except two (p. 92). The value of production of the unit area of cultivated land in Japan is "rather high as compared with other countries" (p. 107). Taking choice districts in Japan, the average rice yield per unit area "will easily surpass that of Spain and Italy," countries otherwise superior to Japan, due to the extensive utilization

of marginal land by Japanese agriculture. Only Germany surpasses Japan in per hectare yield of barley and wheat (Table 101, p. 110). The intensity of labor utilization is high, but a further increase in the intensity of labor will not increase output (p. 116). The supply of fertilizer per unit area has "already nearly reached its saturation point" (p. 119).

This selection of some of the author's major conclusions is not brought together for purposes of argument. Only an expert, with much greater knowledge in the field than the reviewer, could go behind Professor Nasu's facts in order to test their validity and thence to question his results. The selection merely serves to show how closely the author's scientific conclusions accord with prevalent conceptions about agriculture and population in Japan. It also underscores Professor Nasu's evident approval of the current situation when he states: "Existence of up-to-date factories with high technical efficiency side by side with millions of small farms amply supplying these factories with skillful but low-waged man-power constitutes the backbone of the national economy of Japan. This relationship is made possible by the fact that the birth rate of the rural population is higher than that of the urban population" (p. 8). Not so strange, then, Professor Nasu also looks with alarm to the day when Japan will have "to deal with the possible loss of this equilibrum between the rural and urban population. . . . The question becomes more important when one views the farming population not only as the producer of agricultural commodities, but rather as the source of the nation's offspring" (pp. 8-9). The "low-waged man-power," of course, connotes an even more miserably paid agricultural population, and the consequent limited development of Japan's home market has been historically the greatest urge behind aggressive expansion. The above quotations from the early pages of the author's volume are therefore linked with the following quotation from the last page of his conclusion:

> In these circumstances, one way of solving the population problem is surely emigration. To this end there has been advocated a policy of promoting Japanese emigration to Manchoukuo, with a view to enabling the emigrants to settle there as peasant proprietors. Naturally there are various difficulties to overcome, but this seems to be an imperative policy inasmuch as the doors of other countries are closed to Japan. If and when the plan of sending one million farming families to Manchoukuo within the coming twenty years is realized, then the excessive intensity of farming in Japan proper will be somewhat relieved. Thousands of ardent village youths, after having been trained for some time under the strictest discipline in an emigrant training school, crossed the Japan Sea in 1938. With their feet now firmly set on the continent and breathing the freer air there, they are expected to become the nucleus of the planned emigration of the future. Thus Japan has ushered in one of the largest-scale migrations in modern history as a key element in her national policy. Incidentally, it may be added that the migration of Japanese farmers into Manchoukuo is looked upon as one means of feeding the newly constructed railway lines in Manchoukuo.

With the United States at war with Japan, this volume has undoubtedly already been searched for items bearing on Japanese wartime economic strength. Unfortunately, many of the more useful details, particularly for the recent years, have been omitted. Such facts as are indicated do not argue any great vulnerability on the agricultural front. If we accept official data

more recent than those here provided, production has been well maintained, at least in Japan Proper. The twin problems of man power and fertilizer have apparently been solved, at least up to the present. Professor Nasu rather incautiously suggests the most significant factor in the solution of the man-power problem. On page 116 he notes that "it has often been found possible to reduce the average employment of labor by means of coöperative management of agriculture without bringing about any noticeable decrease in production, especially in the cultivation of rice." Improved utilization of a smaller man-power and horse-power force, plus an increasing use of machinery, has characterized the movement in Japanese agriculture since 1937. There are limits to this development, however, even in wartime Japan. Fertilizer supply also presents difficulties, what with the pressure on the chemical industry and declining soya bean production in Manchuria.

A crisis in agriculture does not appear imminent, so far as production for war is concerned. In the future, it is the social relations of Japanese agriculture that present the gravest threat to stability. Professor Nasu's first chapter is carefully shaded on the positive side. Little is said of usury and the debt burden in the Japanese countryside; treatment of this subject is so slight throughout the book, in fact, as to constitute one of its most glaring omissions. Even this chapter, however, includes some illuminating facts. In 1938 some 43,000 persons, constituting 1.5 per cent of landowners in Japan, owned 1,589,000 cho, or 26.2 per cent of the cultivated land. At the other end of the scale, 3,783,000 persons, constituting 74.3 per cent of landowners, owned 1,527,000 cho, or 25.1 per cent of the cultivated land (Tables 13 and 14). In this year nearly half the land (46.5 per cent) was cultivated by tenants (Table 15). This situation is reflected in a later chapter on the farmers' living conditions. The rural-urban migration (consequent on the rapid growth of industry), wartime prices, and other factors have temporarily pushed Japan's basic agrarian maladjustment into the background; tenant-landlord disputes, as a result, have declined in recent years. With the further progress of the war, however, the nemesis lurking in the unsound social relations of Japanese agriculture is likely to overtake the architects of Japan's wartime economy.

T. A. BISSON

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Study of Indian Economics. By PRAMATHANATH BANERJEA. 5th ed. (London: Macmillan. 1940. Pp. 395.)

Economic Reconstruction. By KAGHENDRA NATH SEN. (Calcutta: Univ. of Calcutta. 1939. Pp. 500.)

A straightforward approach to the problems of India is offered in the two books under review. Pramathanath Banerjea's *Study of Indian Economics,* a fifth edition, is the mellowed product of a lifetime. Kaghendra Nath Sen's *Economic Reconstruction* tells the story of Indian thought on harnessing economic development to the public interest. Both books employ the disciplined Marshallian method of presenting economic information and analysis.

According to both authors, there is no question as to whether or not India is going to be industrialized: India's industrial revolution has commenced. The village system, under which each village was a relatively self-sufficient economic unit, is being broken through by the rapid development of communication, economic competition, and education. Under the village system the cultivator and local artisan knew little of modern comforts, but did not miss them. The prosperity of the village was closely tied to the crop cycle. Today the village industries are decadent, while the agricultural aspect remains largely unchanged. This partial addition of the business cycle to the crop cycle has seriously impaired the well-being of the villagers. And the industrial revolution is bound to proceed against all odds; if the people of the country will not take advantage of it, others will. "The only advice which the economist can, under such circumstances, offer to the people would be to ask them to take things as they are, instead of fighting against the inevitable, to profit by the experience of other nations, and to try to minimize the evils of an industrial change. . . . One of the chief means by which the evils of capitalism may be minimized in some degree is the adoption of the principle of coöperation."[1]

Banerjea stresses the social as well as economic importance of small industries even in these days of large-scale production. Sen takes the same position. He writes:

> Even Japan has revolutionized her ancient life by the remodelling of her small and cottage industries. This has been done . . . by instituting a cheap supply of electrical power which enables the Japanese worker to work in his cottage with up-to-date machinery. . . . The Japanese weaver . . . uses the Toyada-loom which is driven by electricity. It is no wonder that his industrial output is ten to twelve times larger than that of the Indian workmen. Thus the Indian system, if it cannot adopt immediately the technique of the West (*sic*), can certainly turn to Japan for a technical example; for it is estimated that more than half of Japan's industrial production comes from the cottages.[2]

It is evidently quite unrealistic to harbor a simple faith that India's industrialization will follow our historical Western pattern. But that is all to the good. As a matter of fact, now that electricity, plastics, etc., have made it possible to decentralize industry, we are ourselves seeking to achieve that toward which Banerjea and Sen would have India advance.

Granted that an industrial revolution is under way in India, does India have a sufficient command over its real resources to carry it out? Not so, according to our authors. But India's economic potentialities are such as to have made it inevitable that supplemental foreign capital has been and will continue to be made available to her. The problem is that of disseminating a clear conception of the limits within which foreign capital is beneficial. From the point of view of democratic political and economic control, as well as from the point of view of conserving India's natural resources: (1) Indian capital should have full scope for investment in Indian industries, and (2) foreign capital should only supplement Indian capital, that is, should not attempt to replace or prevent the formation of Indian capital. Such a policy can be implemented

[1] Banerjea, *Study of Indian Economics*, pp. 112, 113.

[2] Sen, *Economic Reconstruction*, p. 224.

by the following devices: (1) The incorporation in rupee capital of all companies operating in India; (2) adequate provision for the training of Indian apprentices and future managers; (3) the reservation of a proportion of seats for Indians in the directorates of non-Indian companies. In order to prevent this latter from becoming merely a legal subterfuge, indigenous Indian capital must be mobilized. Given the proper safeguards, Sen holds, there is undoubtedly an advantage to having foreign concerns operate plants within India.

In their treatment of the question of foreign capital in India, Banerjea and Sen display a consistently economic attitude. Their protests—made especially in the fields of railways and shipping—are not against *English* or *Scotch* vested interests, but against vested interests as such. Some of our good-willed "sympathizers" with India, who so easily and so publicly lapse into an anti-British attitude on this issue, might learn from our authors. The general reader will sense with relief that Banerjea's and Sen's approach allows one to come to the real point of the issue. On the other hand, he will appreciate why these authors cite with obvious pride the great Tata iron and steel works as an example of what can be done by way of heavy industry, financed by Indians, managed by them along modern lines, and featuring the most advanced labor relations in India. In so doing neither Banerjea nor Sen is indulging in a nationalist pride but is exposing a common fallacy in which historical retardation of Indian managerial skill is confused with an innate lack of ability.

Other common bogeys about the Indian situation are dispelled; for instance, the idea that the caste system is a system in static equilibrium. In fact it is on the way out, if slowly. Crowding it out are the same forces of the industrial revolution which would also render harmless the great religious issues, just as the industrial revolution in England put an end to the expression of social struggle in religious terms. The religious issue cannot be understood without reference to the economic conditions of mass distress. On the problem of Indian population Banerjea quotes with evident satisfaction an Indian economist who said: "The time spent in lamenting the inordinate increase in the population of the poor would be far better spent in arranging effective measures for the removal of their destitution."

On the question of economic control Banerjea is a follower of John Maynard Keynes whom he interprets as saying that "involuntary unemployment" is an inevitable result of an economic system where the rate of interest and the rate of investment are allowed to be determined by uncontrolled competition. Accordingly, private enterprise, unaided, cannot be expected to operate to the extent and in the manner most desirable from the standpoint of employment. Public investment is a very practical necessity in India. It would be very effective in India, because of the large number of persons with small incomes. This means that the value of the Keynesian multiplier (the relation between primary and secondary employment) is high, because in such circumstances a considerable portion of any increment of income will be spent on consumption goods rather than being saved. Here is a valuable, if unintentional, hint to our public financial authorities charged with supporting or controlling the flow of American capital to foreign areas.

Finally, Banerjea advocates economic planning, by which he means first of

all the coördination of various acts of Indian economic legislation to form parts of an organic whole, and coöperation between various provincial administrative bodies, as well as coöperation between these and the central government. He insists on a well-defined aim of planning within practical time limits, and refers specifically to Sir Visvesvaraya's ten-year program for the whole of India. This plan envisages within a ten-year period a doubling of the national income, a considerable increase in the quantity and value of industrial output, and a diminution by 20 per cent of the population supported by agriculture alone. The Government of India act of 1935 has been a very real obstacle to Indian economic planning because it removed the money markets and the transport system from effective Indian control.

Sen's book follows up Banerjea's rather general remarks on economic planning with a wealth of practical detail. Readers who very properly consider the formula "economic planning" taken by itself to have a hollow ring will not be dissatisfied, although there is wide scope for controversy as to the wisdom of the type of administrative planning which these authors tend to favor for India. It may be wise, however, to listen to Indian economists who depict the historical background which must not be ignored in discussing the problem of economic planning in India.

Both books present social value judgments and do not essentially involve objective truths or fallacies; but the precision and integrity with which Banerjea and Sen give practical implementation to their fundamental value judgments are exactly what makes their books such eminent contributions.

GEORGE WILLIAM ZINKE

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Latin America. By PRESTON E. JAMES. (New York: Odyssey Press. 1942. Pp. xviii, 908. $4.50.)

"Somehow we must learn promptly to understand and appreciate the other Americans who also live in the New World." By his careful explanation of the "differences which distinguish one group from another," the versatile and experienced author of this book has succeeded in spreading understanding of and sympathy for Latin America. His purpose in writing was to make a "study of human geography." The result is a soundly scientific book, remarkable for many reasons. There are 144 maps and 64 photographic illustrations which provide useful orientation. It is a multilateral survey which makes clear the important factors in the development and present status of the different economic conditions of Spanish South America, Portuguese South America, Mexico and Central America, and the West Indies and the Guianas. A general introduction and a general conclusion containing 66 pages provide concentrated and illuminating answers to the questions "we wish to ask about the people who share with us the protection afforded by a common ocean from the chaos of a collapsing Europe." The bibliography which covers 18 pages lists publications in five languages: English, Spanish, Portuguese, French, and German.

A few of the many questions of interest to economists which are answered in the book are: How does it happen that not more than 8 per cent of the world's population is living in the 8 million square miles of Latin America? How is it, and what economic consequences follow from the fact, that the Latin Americans are grouped in clusters which remain distinct from one another? What explains the existence of 46 cities in Latin America, each with more than a hundred thousand population, in relation to which the population density of the hinterlands is out of proportion compared to Europe or North America? Much is to be understood if one takes into consideration the fundamental physical diversity of the land, which "cannot be described without the use of superlatives . . . but superlatives which are poorly combined in terms of the needs of modern industrial society."

In general each country is treated as follows: One page contains the most important facts upon area, total population, trade per capita, currency and exchange, major commercial products, and railroad mileage. (I suggest that the second edition might contain a little more of such basic information, to include, for example, public finance, trade with the United States, living costs, highways, and air traffic.) The general characteristics of each state are given in a concentrated form. The components of the population and the settlement are explained. The physical character of the land is given in detail, its climate, vegetation, and geological nature. The interdependence of the topography, production, and transportation always is taken into consideration. From such information economic conditions are easily understood. The final part of the study of each country contains outlines of the political situation.

Professor James offers a plastic description of all varieties of the economic man to be found in the vast continent and at the same time the types of man who are not at all "economic" in the usual sense, more inclined to poetry than to economics. In his description, the author's style is often picturesque, as when he describes Paraguay as "a little country that somehow missed being a paradise . . . paradise indeed—for a people who wish to live comfortably and do not dream of great riches. . . . But it takes more than a comfortable climate or a satisfactory soil to lift people out of poverty."

About two-thirds of the inhabitants of Latin America have to be considered "entirely untouched" by matters of trade and foreign commerce. They get only the bare necessities of living and the great majority of them are also illiterate. The other third constitute the governing class, among whom are to be found many persons of wide education and high intelligence. Poor health and malnutrition are widespread in Latin America. There is much lack of energy, much ignorance and apathy; but there are sufficient examples to prove that these defects are remediable and not due to inheritance and climate.

Readers of the book will be freed of the mistaken notion "that the thinly occupied regions to the south of North America contain more undeveloped resources waiting only for the magic touch of unrestricted private enterprise." They will also be saved from assuming that Latin America is "backward" in any simple meaning of the word. A prerequisite to good neighborliness is to judge each country of Latin America in its own terms and to avoid a judgment on the basis of the "North American way of living." It is shortsighted to

apply such words as democracy and dictatorship in their European or North American sense. Such designation "can only bring obscurity."

Professor James is rather realistic in regard to the future course of events after the war is over. Says he: "The time is still too recent when the United States was acquiring territory at the expense of the Latin Americans. . . . The Yankee Peril cannot be eradicated from the minds of the people by only a decade of good neighborliness. Argentina, especially, challenges the right of the United States to dominate—even in the economic field. None of these countries has any sentimental attachment to the United States which could weigh against the practical fact that most of the essential foreign markets for surplus products are to be found in Europe, whether in Great Britain or in Germany." The domination of the English-speaking peoples over the Latin Americans in economic matters or otherwise would be feared no less than the potential menace of the Axis Powers. "These considerations of sentiment are not to be overlooked in planning a new world order." The future, in the author's opinion, more than ever before will be dominated by the industrial city; and "industrial society, welcomed or not, will bring certain changes to Latin America, and those changes cannot long be resisted." The greater productive capacity for each person will bring a fuller life, better diet, better health, better education. "The man or the government that can bring order and coherence out of all the up to now diverse unproductive living elements, will find the real wealth of El Dorado."

ALFRED MANES

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Statistics; Economic Mathematics; Accounting

Distribution Cost Analysis. By DONALD R. LONGMAN. (New York: Harper. 1941. Pp. xix, 280. $4.00.)

"Distribution cost analysis," says Dr. Longman, "is the term commonly given to the study by business men of the effect of the particular methods and tools they employ upon their expenses for marketing goods and services" (p. 1). "Cost analysis" is considered a special branch of accounting, paralleling cost accounting. It is a business tool for the attainment and maintenance of business efficiency. Efficiency is defined "as the attainment of a given objective with the least possible effort or cost" (p. 1). The cost concept used excludes nonpecuniary effort or other yardsticks, and includes only measures that can be directly related to profits. "Cost analysis" is distinguished from "market analysis" in which the influence of market factors on costs are analyzed; and the latter is excluded from the author's analysis.

As a basis for his own suggestions, Dr. Longman presents an excellent, pointed appraisal of the cost categories that have been developed and of the methods of cost analysis currently employed. His own interest is not so much to establish actual costs as to set up standard costs that may be employed to judge (1) the efficiency of the utilization of (a) labor, (b) plant,

(c) operating executives, and (d) financial resources; and also (2) the influence of changes in the prices of goods and services required for operation, and of distribution policies upon costs of marketing. Although the discussion of labor is mainly confined to measures of performance for repetitive (routine) activities, there is some discussion of nonrepetitive functions. The procedures developed are finally broken down for commodities and customers, units of sale, services (as credit, delivery, alterations, repairs, storage and returns), and transaction types.

A brief characterization of the technical procedures recommended for establishing cost standards for labor, price changes and subcapacity operation will indicate the nature of the author's proposed system. It should be noted, however, that there are numerous additions, variations, and refinements for various purposes. The chief steps in order for repetitive functions are:

1. The accumulation of costs by functions (59 functions are suggested but only part of these would be pertinent in any given case).
2. The segregation for each function of the expenses subject to direct control.
3. The determination of standard costs for labor and materials used in repetitive functions. This involves a job audit, time and motion study, etc.
4. The computation of standard costs for all other expense items.
5. The subtraction of total standard costs from actual costs to establish the degree of efficiency in operation.
6. The determination of the actual average price per unit for expense elements subject to direct control of labor.
7. The determination of the joint loss (or gain) attributable to price changes in both direct and indirect expense items. (This involves several types of computation.)
8. The final determination of the effect of labor efficiency and sub-capacity operation upon cost during the period.

Some variations in procedure are suggested for nonrepetitive functions.

Dr. Longman has anticipated many criticisms of his procedures and presents cogent replies. Furthermore, he clearly appreciates some of the limitations of the results, especially from the standpoint of firm policy. Finally, he appreciates that in many, perhaps most instances, partial and sampling analysis will be adequate.

A treatment as broad and yet as detailed as the author's inevitably gives rise to numerous general and specific criticisms. So far as criticisms of detail are concerned, they should result from attempts at application of the procedures by the author and others. There can be little doubt that experience will produce many adjustments. In general terms the following comments and suggestions, it is hoped, will have some constructive value:

1. It was unfortunate to consider cost analysis merely as a branch of accounting. In the reviewer's opinion the best work in this field will derive from a combination of cost accounting, economic analysis, and common sense. Dr. Longman gives abundant evidence of good judgment and balance and of familiarity with cost accounting; but for some reason he was unwilling

to use the tools of economic analysis in an overt manner. Even if he was writing chiefly for cost accountants, marketing specialists and business men, it should have been feasible to have related his work more definitely to economic analysis.

2. There is not sufficient indication that the author realized that the standard cost procedures suggested involve a considerable subjective element.

3. The inherent differences between the cost problems of producers and of distributors are not noted except to point out that only that portion of the general method need be employed for any given firm which is applicable. But the problem is not so simple for manufactures, because production and marketing costs are organically interdependent, and consequently distribution policies should not consider merely the latter.

4. By refusing to enter the area of "market analysis" in addition to "cost analysis" as defined, the author places his analysis on an unnecessarily static and semi-arid plateau. Market and cost analysis need to be employed together when feasible if full and realistic results are to be achieved.

These general criticisms are by no means to be interpreted as suggesting that the author has done a poor job. Dr. Longman has boldly invaded one of the least explored and most treacherous areas of investigation. He is to be congratulated for the initiative, originality, and vigor shown in his work. Undoubtedly his analysis and procedures will have front-rank significance in the developments in this field.

E. T. Grether

University of California

Inventory Valuation and Periodic Income. By Carl Thomas Devine. (New York: Ronald Press. 1942. Pp. vii, 195. $3.00.)

For some years there has been controversy among accounting scholars and practitioners on the relative merits of the several inventory valuation concepts. This controversy has been intensified lately for several reasons. The announcement of accounting "standards" in which the strict cost concept was advocated by the American Accounting Association stimulated the discussion, and practitioners have been given to self-searching and to improving themselves before the public as a result of the widespread criticism they received after the McKesson-Robbins case. Increasing income tax rates have given impetus to inventory valuation methods calculated to reduce the fluctuation of earnings between years, and proponents of these methods have been especially vociferous.

The discussion has been considerably confused by differing viewpoints. Writers have generally tended to emphasize the needs and uses of either the balance sheet or the profit and loss statement, and they may be characterized by a failure to observe fully the interdependence of the two fundamental accounting statements and to rationalize their contentions in terms of both. The title of the work under review testifies to the author's consciousness of this necessity and to the recent growth of emphasis upon the computation of income. The book thoroughly explores the effects upon periodic income of the

prominent inventory valuation methods—identified unit cost, replacement cost, and "cost or market, whichever is lower," as well as their subsidiary variants.

In this connection it should be observed that the study is made from an accounting point of view and that the author's announced purpose of determining "the possible consequences of each cause of action" is directed at the effects produced in the accounting statements. His other avowed purposes—to estimate "the probable reactions of those reading the accounting reports" and to test the desirability of the probable reaction "by reference to certain broad social standards taken from the general fields of business administration, economics, sociology and psychology"—will appeal to economists as desirable objectives, but their accomplishment is almost completely submerged in the delineation of the mechanical effects of the several accounting policies.

Those interested in the effects of accounting methods upon business reports and sentiment will find in the book a thorough investigation of the accounting aspect of these questions which goes somewhat beyond the rôle of inventory, since the author begins with the problems of revenue measurement and recognition, and proceeds through a discussion of the inventory process to the particular methods. Under the heading of cyclical behavior, charts have been presented which are derived by the application of six different inventory methods to the inventory data of an actual cotton mill for the years 1933-1938. The methods illustrated are cost or market, current market, first-in first-out, average cost, base stock and last-in first-out. The amplitude of the curves is less for the last three methods and least for the last one, as is to be expected from theory. Too many variables are involved to make a simple summary of conclusions possible.

To the accountant the book is notable for its completeness and objectivity in a field where advocates abound and the disinterested appraiser is rare. Of special significance is the author's recognition that the oft-criticized rule of thumb of practice—"cost or market whichever is lower"—is not without a theoretical defense. The author's conclusion upon the controversy regarding the various methods of income computation, and, by inference, upon the desirability of establishing any one rigid formula, is recommended to all parties and is reproduced herewith: "In light of these numerous alternatives is it possible that one (and only one) of them yields the 'true' profit and all others lead to false income figures? The naïveté of such a rigid position is obvious."

LAWRENCE L. VANCE

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Business Cycles and Fluctuations

Unused Resources and Economic Waste. By DAVID ROCKEFELLER. (Chicago: Univ. of Chicago Press. 1941. Pp. ix. 260. $2.00.)

This essay is concerned with the problem of unused capital resources rather than with labor and the former is presumed to include all resources whose exploitation could be [is] undertaken "according to the cost principle." The essay is concerned with the logic and rationale of the concept of unused

resources rather than with the statistics of possible additional production. In addition to a brief account of the history of the concept under discussion and summary remarks on certain institutional factors, the bulk of the book is devoted to a statement of the allocation and utilization of capital resources under competitive and monopolistic conditions. To those familiar with the apparatus of economic analysis the above statement will suffice as an indication of the content of the book.

It is not surprising that the discussion of the subject matter of this book has been stimulated by depressed economic conditions and particularly by the depression of the thirties. And yet this book and many related to it are concerned primarily with the possibility of greater production than is achieved in our most prosperous periods. Possibly one of the chief weaknesses of the book is its failure to relate or to distinguish the principles which explain why capital resources are used less at some times than at others from the principles which explain why they are never used more than they are. Apparently the author on the whole believes that the economic system can be justified for not having operated at higher levels in times of prosperity but cannot be justified for having operated at such low levels in times of depression.

The author has selected for particular analysis three studies of production capacity: Harold Loeb's *The Chart of Plenty;* the Brookings Institution's series of studies beginning with *America's Capacity to Produce* and ending with *Industrial Price Policies and Economic Progress;* and the National Resources Committee's *Patterns of Resource Use.* The merit of these works is judged to be in the reverse of the order named. However, he finds them all to be highly unsatisfactory.

Quite aside from any criticism of the measurements used, waste cannot be judged from economic measures alone. Political institutions are ends in themselves and economic products received must be evaluated along with the relative desirability of political institutions which are necessary to produce the products. The last chapter gives proper emphasis to the elusive character of the whole notion of waste.

Mr. Rockefeller has produced an able critique of attempts to measure the amount by which the economic system has fallen short of its potentialities, with due recognition of the possible social cost of achieving a greater economic production.

HOMER JONES

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Public Finance; Fiscal Policy; Taxation

Fiscal Planning for Total War. By WILLIAM LEONARD CRUM, JOHN F. FENNELLY and LAWRENCE HOWARD SELTZER. (New York: National Bureau of Economic Research. 1942. Pp. xxv, 358. $3.00.)

The authors of this report constituted the Directing Committee of a study commissioned by the Conference on Research in Fiscal Policy, which in

turn is sponsored by the National Bureau of Economic Research. The report is based on the work of an active staff of fourteen professional members, assisted by several special collaborators and a long list of consultants.

The chief use of the report will be as an analytical handbook for students of fiscal policy. It is too concentrated and technical to appeal to non-professional readers, and it does not attempt formulation of concrete and specific policy recommendations. But it succeeds brilliantly in locating the considerations which matter in each phase of the fiscal problem, and in tracing cross-relations. Particularly in these days when scholarly leisure has almost disappeared from the market, a check-list of these considerations and cross-relations is a very useful asset for the student.

The book falls into two main parts. Chapters 1-5 deal with the relation of war finance to its "real" setting; chapters 8-12, with taxes of various sorts. Chapter 6 (Desirable Amounts of Taxation and Borrowing) and chapter 7 (Taxation: Needs, Limitations, and Possibilities) afford a transition. Chapter 13 (Government Borrowing) might well have been treated as an appendix.

The first two chapters relate the war effort to the national product, following roughly the procedure of the recent articles in the *Survey of Current Business*. This involves making war expenditures and national product comparable—an adjustment without which the unwary frequently arrive at the paradox of war expenditures and consumption more than exhausting the product—by adding depreciation, depletion, and business taxes to national income. The reader should be warned that the "1943" estimates presented on page 47 relate to the fiscal year 1942-43. Incidentally, figures published since the report went to press indicate that the authors' estimates both for 1942 and for 1942-43 were considerably too low both for consumption and for military outlays. This is not too serious, of course; the figures are useful to indicate the general magnitude of the problem and to illustrate analytical procedure, and the authors presumably intended no more.

The third chapter brings in estimates of income distribution by size to illuminate the fiscal problem. Again the estimates, regarded as forecasts, are too low. The 109 billion-dollar level of individual money income forecast for fiscal 1942-43 was actually passed in the spring quarter of 1942. But the procedure of breaking down consumers' "desired expenditures" (those they would make if unlimited supplies of consumers' goods were available at current prices, given consumers' money incomes) by income level is revealing. Details of procedure are not fully described and, in any event, the availability of income and expenditure data for 1941 and 1942 (collected by the Bureau of Labor Statistics and the Bureau of Home Economics) will make it unnecessary in future to go back to 1935-36 for data as the authors were obliged to do. In principle the procedure sketched in the note on page 67, applied to the new data, should lead to respectable first-approximation results; though it is hard to reconcile the authors' figures with the record for 1941. They estimate "desired expenditures" for a 109 billion-dollar income level at 78 billions; since they estimate personal taxes at 1941 rates at 7.3 billions (p. 172), this expenditure corresponds to a disposable income of

102 billions at April 1942 prices. By valuing the 1941 income at 1942 prices,[1] consumers received 103 billions, had a disposable income of 96 billions, and spent 82 billions. This discrepancy may reflect some first-magnitude bias in the procedure; but the reviewer is inclined to attribute it to the defects of the 1935-36 base for extrapolations to a level of income nearly two-thirds higher.

The fourth chapter discusses "The Role of Finance," making the usual point that a realistic anti-inflationary policy of war finance does not increase but rather decreases the hardships of the public, but making the point unusually well. The fifth chapter analyzes the "Direct Controls" available for steering economic mobilization. Here again the ideas are common property of the economic profession; but, except for a lack of stress on consumer rationing, the emphasis is admirably distributed, and the discussion of the inter-relations of direct and fiscal controls (which of course is the purpose of the chapter) is most helpful.

Chapter 6, on "Desirable Amounts of Taxation and Borrowing," is the high spot of the book. The concept of a "spending balance" from which it sets out makes an excellent focus for analysis of the problem of wartime deficit financing. The analysis of the drawbacks of heavy public debt (pp. 140-44) is masterful, and well balanced against the arguments for a post-war backlog of spending power. The section on adverse effects of drastic taxation (pp. 144-51) puts a great deal of substance into the rather vague fears often expressed by business men and congressional leaders; though the expressing of a preference for taxes over compulsory loans (pp. 162-66) implies that the authors do not think incentive considerations make it impossible to levy sufficient taxes to block inflation. A very interesting study of the positive benefits of a wartime deficit is offered on pages 155-59. The upshot is that certain (gross) savings are necessary to keep individuals from being frightened by their inability to maintain life insurance, retirement plans, mortgage payments, etc., and to provide for depreciation of capital goods which cannot be made good in physical form under war conditions. About 20 billion dollars per year is suggested (p. 159) as an "ample" figure for this purpose.

The second transitional chapter is a general view of the tax system. Subtracting the 20 billions of borrowing suggested above from estimated expenditures "leaves some 55 billion dollars as one tentative goal of a tax program for the fiscal year 1943, with the possibility that it can be substantially lower, perhaps as low as 40-45 billions without necessitating inflationary borrowing." The revenue situation under the Revenue act of 1941 is analyzed (pp. 171-80); and the revenue is found to be inadequate and designed to come in with too much lag—objections which still apply under the 1942 Revenue act. At the end of the chapter are offered three "possible combined tax plans" (pp. 182-84), promising yields of about 12 billion dollars above the 1941 Revenue act, or 3 to 5 billions above the 1942 act. The authors point out (p. 185) that this "is $10 billion short of the tax goal of $40 billion indicated earlier in this

[1] See my article, "What It Takes to Block Inflation," *Rev. of Econ. Stat.*, Vol. 24 (Aug., 1942), p. 103.

chapter as a rough minimum," but offer no suggestions except that a "combination of new taxes which would cut down this dangerous gap of $10 billion would necessarily comprise even more severe rates than those illustrated."

The chapters which follow discuss in succession taxes on corporations, indirect taxes, and taxes on individual incomes. The chapter on corporation taxes, unfortunately, does not go into the question of recapture of profits by renegotiation of contracts, which appears likely to be of great importance; but otherwise it remains as relevant as before the 1942 Revenue act was passed. Chapter 9, on indirect taxes, seems to favor much heavier use of excises and also a general sales tax; it offers an impressive list of reasons in favor of such a policy. Several serious arguments against sales taxation, however, are omitted, in particular: (1) the administrative overload on the Bureau of Internal Revenue which has to adapt itself to handle taxation of incomes at the source; (2) the nullification of much of the income-absorbing effects of such taxes by cost-of-living allowances in wage determination; (3) the overload on the price-control machinery of adapting ceilings to new indirect taxes; (4) the fact that much sales tax revenue is likely to come from marginal profits—*i.e.*, to the extent of 80 per cent from potential corporation tax revenue; (5) the fact that raising a billion dollars of such revenue seems to take about a month of consideration from congressional committees, holding up action along more promising lines.

The chapter on taxing individual incomes handles admirably the question of incentives, except for the case of taxes on "excess incomes" of individuals (increments since a base period), which at several points in the book are treated much too indulgently. On pages 256-62, three possible rate schedules are considered. Their shape is intended to reflect incentive considerations previously discussed; but the authors themselves seem somewhat uncertain that those considerations can be interpreted quantitatively. A hint is dropped on page 259 that schedule A is likely to be the most drastic schedule "feasible at present"; but no argument is presented. The less drastic schedule B actually matches rather closely with the schedule enacted in 1942 (if the 2 per cent increase in normal tax, which our authors do not commend, is added in). The increase in revenue of Schedule A over 1941 rates is placed (p. 262) at 2 billions, one billion above Schedule B. A reduction of exemptions (to a level about that of the 1942 act) is estimated on page 264 to yield 2.2 billions. Limiting the benefit of exemptions to the first bracket taxable is estimated on page 265 to yield 0.2 billion. The only figure offered for the effect of requiring joint returns (p. 268) is about 0.3 billion. Eliminating some deductions is estimated (p. 274) to yield 0.2 billion, eliminating tax exemption (p. 275), over 0.2 billion. These possibilities add up to about 5 billion dollars—not much more than the yield of additional personal income levies included in the Revenue act of 1942.

If the quantitative side of the tax chapters must be accepted as exhausting the nation's revenue opportunities, the outlook is black indeed. But there is strong evidence that the authors of this report have underrated the income tax. In calendar 1943, the incomes citizens receive will total some 125

billions, of which under 15 billions will go for personal taxes. It stands to reason that somehow a levy can be designed to capture at least double this proportion without undermining necessary work incentives. Rather than accept the conclusion implicit in this report—that we can only carry out the war production program by tolerating inflation to provide "incentives"—we should do better to abolish income tax exemptions and levy on the whole income, which would surely yield enough revenue. But we need not go so far. From study of the distribution of income by size it appears that we can subject half the national income to tax (allowing for deductions and exemptions) by fixing exemptions to make two-thirds of the nation's families taxable, two-thirds of income by making four-fifths of the families taxable. To control inflation, we need from income taxes some 30 billion dollars—say, a quarter of income. With two-thirds of income taxable, this implies an average rate on taxable income of about 40 per cent; with half taxable, 50 per cent. The exemption necessary would be about $1000 of net income for an average family.

As the authors put it, "inflation is rarely chosen as a deliberate policy. It is rather the result of ignorance, drift, practical obstacles to alternative courses, and political weakness" (p. 93). If we economists are not to share responsibility for such an outcome, we must go beyond the furthest stage reached in this report and outline tax programs which really would yield at least the minimum necessary revenue. But in doing this job we shall find the report a very useful guidebook.

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Money and Banking; Short-Term Credit

Our Modern Banking and Monetary System. By ROLLIN G. THOMAS. (New (York: Prentice-Hall. 1942. Pp. xxiii, 812. $4.00.)

Despite the fact that modern economic theory has been characterized by a recognition of the significant rôle which money plays as an activating influence in the functioning of an economy, there has been a noticeable lag in the speed with which new ideas in monetary theory have found their way into money and banking texts. Professor Thomas has made a valuable contribution to worth-while teaching of money and banking, therefore, by writing a text which goes beyond the quantity theory and the technical details of money and banking and aids its readers to understand the important position of money in the modern theory of value and price. In accomplishing this objective he has avoided the usual practice of studying money and banking *in vacuo* and has succeeded to some extent in weaving monetary and banking theory into the body of general economic theory.

The material of the book falls into two major divisions. The first (chaps. I-XXIX) is devoted to a description of the nature and operation of our money and banking system and is designed to accomplish three things; namely, to

provide an understanding of the monetary mechanism, to supply the basic, elementary information required for an intelligent approach to the banker-customer relationship, and to describe contemporary banking institutions and practices. The second major division (chaps. XXX-L) deals with modern monetary theory and problems. It represents an attempt to guide the reader through the "recognized" theories of money and prices, with stress on their "complementary" rather than their "controversial" nature. As Professor Thomas explains, "an attempt is made to harmonize the several approaches and to use them in elucidating the central problem of price level behavior" (p. vii). A considerable space is given to the fundamental question of international price relationships, under both gold and paper money, as a basis for weighing the arguments for and against monetary nationalism. Finally, the problem of appropriate monetary and central bank policies is discussed, with emphasis on their contribution to economic stability. In general, the organization of the book is intended to integrate the material for a coördinated course in banking, money, and the theory of prices.

A chapter-by-chapter examination of the first major division of the book would be not only an overwhelming task, but it is unnecessary. The material consists of an orthodox presentation of the technical aspects of money and banking. Running through these chapters is a current of theoretical discussion which sometimes serves to relieve the monotony of the mechanical details. There are several general criticisms which can be made with regard to the first division. From the viewpoint of readability and teachability many of the first twenty-nine chapters are very well done, but several others are of an inferior quality. Between the better chapters and the poorer ones there is an unusually wide spread. Illustrative of the poorer ones is chapter V, "The Nature of a Bank," a somewhat forbidding account written in a sketchy, outline fashion. Chapter VI, "The Banker and Credit Instruments," is subject to the same criticism. Perhaps the least adequate of all the first twenty-nine chapters is chapter VIII, "The Guaranty of Bank Deposits." It is a superficial treatment of deposit insurance couched in tiresome, legalistic terminology. The outstanding development in connection with federal deposit insurance, namely, the realization of 100 per cent insurance coverage for each depositor via the "loan and purchase" powers of the Federal Deposit Insurance Corporation, is completely ignored. To a lesser degree several other chapters are open to similar criticism. In many places the reading degenerates into a superficial, bare-outline presentation of the material. Fairness demands, on the other hand, an acknowledgment that, judged by the standards of content and teachability, several of the chapters in the first division are high grade, especially chapters IX, X, XIV-XVI, and XXII-XXIV.

The treatment of commercial bank deposits leaves much to be desired from the viewpoint of teachability. The exposition is not sufficiently pointed, it tends to be confusing, and it relies too much on the student's imagination. It is stated briefly on page 13, for example, that a commercial bank "creates" demand deposits, on page 53 the bank "lends" deposits, on page 55 it "creates" them, and on page 75 it "lends" them. The discussion shuttles back and forth between "loan-created deposits" and "cash-deposits" without a clear explana-

tion of the difference between the two. The distinction is made clear on page 80 in a brief paragraph entitled "Creation of a Deposit," but it is done in such a casual manner as to leave the reader uncertain about which type is the more important of the two. Following the above-cited paragraph, which merely mentions the creation of deposits, discussion of loan-created deposits is postponed until chapter XVII, "The Volume of Bank Credit." Here, at last, the reader finds a presentation of the multiple expansion of commercial bank deposits on the basis of fractional reserves. The exposition could be much more helpful to student and teacher, however, if the well-stated principles were clothed with much more illustrative material. It would seem that the great importance of commercial bank deposit creation renders it imperative that the student be drilled in all its complexities by means of a wealth of illustrative material in the text as well as in the classroom.

The splendid work which Professor Thomas has done in the second major division of his book, that dealing with monetary theory and problems, more than compensates for any shortcomings of the first division. Most of the material reveals precise thinking, exhaustive research, and a keen interest in the subject. Clarity in style, skill in simplification, and thoroughness in discussion make the second part eminently satisfactory for student and teacher alike.

The first six chapters of the second division are especially well done. Without side-stepping any of the difficulties involved, Professor Thomas provides his readers with the fundamentals of recent monetary theory. The ideas of Keynes, Hawtrey, Robertson, Wicksell, Ohlin, and others, are all put forward in a most teachable manner. Chapter XXX begins the study of money and price theory with a consideration of price movements and their consequences. It supplies an excellent treatment of such subjects as the measurement of price changes, price dispersion, and the effects of changes in the price level. The only sour note is the unqualified adherence to the old chestnut that in a period of rising prices real wage rates fall because commodity prices climb faster than money wage rates (p. 470). The work of Dunlop, Tarshis, and others proves that at least over a considerable range of rising commodity prices, real wage rates may increase as well as money wage rates. Chapter XXXI is a brief but helpful introduction to the theory of the value of money. It lays the foundation for subsequent discussion with a clear explanation of the transactions and cash-balance approach to the demand for money. Chapter XXXII continues the consideration of the theory of the value of money with an intensive discussion of the usefulness of the transactions equation and the cash-balance equation (Keynes's and Robertson's formulations) as devices for analyzing the relation between the quantity of money and the price level. Chapter XXXIII, "The Income Approach to the Value of Money," successfully explains the relation of total money income to the quantity of money, Hawtrey's approach to the relation between the quantity of money, money incomes, and the price level, and Keynes's early ideas (*Treatise on Money*) on the inequality of saving and investment as the cause of changes in the price level. Keynes's views are very well illustrated by means of graphic examples. With admirable lucidity and succinctness Professor Thomas sets forth in chapter XXXIV the

ideas of Keynes in his *General Theory.* Graphic examples are again of aid in the interpretation of Keynes's theory concerning the equality of savings and investment and the multiplier principle. Chapter XXXV is an excellent discussion of the rate of interest and the price level, with special emphasis on the views of Hawtrey and Keynes.

There is no need to enter upon a detailed account of chapters XXXVI-L. The high quality of previous chapters is sustained throughout a consideration of such subjects as international price relationships under both gold and paper money, monetary nationalism versus internationalism, and appropriate monetary and central bank policies with respect to economic stability. The only possible adverse criticism is that perhaps too much space is devoted to the international gold standard.

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El Banco de la Nación Argentina en su Cincuentenario. (Buenos Aires: Privately printed. 1941. Pp. xiii, 473.)

The Bank of the Argentine Nation published this commemorative volume, with an introduction by its president, Jorge A. Santamarina, on its fiftieth anniversary. The Bank, established in 1891, when Argentina was in financial collapse after the great foreign borrowing of 1880's, has played an important part in the economic life of the country in the half-century that has seen the emergence of Argentina as a modern nation. The volume itself, beautifully printed and illustrated, is, even to the reader who does not know Spanish or is not interested in banking history, a symbol of the development of Argentina.

Like many commemorative bank histories, the book makes no pretentions to extended economic analysis, but it has much of value both to the monetary economist and the economic historian. The first third deals with the period before 1891, and reprints the text of many early laws and decrees on money and banking. American readers will note in the struggles over the Banco Nacional, which was established in 1826, the refusal of the government to renew the charter in 1836, and the subsequent use for many years of the mint as the banking agency of the government, a similarity to the history of the Second Bank of the United States and the Independent Treasury. The system of bond-guaranteed bank notes, established in 1887, was modeled on our national banking system. A detail of economic history mentioned, and one that might well be pondered by those who take a static view of our economic relations with Latin America, is that in its early years Argentina imported wheat from the United States. Among the many plates in the book is one of an early bank note of the Banco de Buenos Aires, printed in the United States and carrying the portrait of George Washington.

The remaining two-thirds of the book deals particularly with the Bank's activities, but it also has considerable material on the development of Argentine monetary and banking policy since 1891. The text of presidential messages, of reports of ministers of finance, and of parliamentary debates relating

to the Bank, and extensive statistics on banking operations, make the volume particularly useful to a reader who does not have access to detailed Argentine sources. Among other material are the names of all presidents, vice presidents and directors of the Bank since its establishment; the date of the establishment of each branch; provincial and territorial maps showing the location of the branches, brief statistical statements on each province and territory, and data on the Bank's operations there.

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International Trade, Finance and Economic Policy

America's Strategy in World Politics: The United States and the Balance of Power. By Nicholas John Spykman. (New York: Harcourt Brace. 1942. Pp. 500. $3.75.)

"Because of the distribution of land masses and military potentials, a balance of power in the transatlantic and transpacific zones is an absolute prerequisite for the independence of the New World and the preservation of the power position of the United States. There is no safe defensive position on this side of the oceans. Hemisphere defense is no defense at all. The Second World War will be lost or won in Europe and Asia. The strategic picture demands that we conduct our military operations in the form of a great offensive across the oceans. If our allies in the Old World are defeated, we cannot hold South America; if we defeat the German-Japanese alliance abroad, our good neighbors will need no protection. . . . The interest of the United States demands not only victory in the war, but also continued participation in the peace. . . . Basically, the new order will not differ from the old, and international society will continue to operate with the same fundamental power patterns. It will be a world of power politics in which the interests of the United States will continue to demand the preservation of a balance in Europe and Asia" (pp. 457 and 461).

That is the fundamental thesis of Professor Spykman's book. It is an important and, in some respects, a brilliant book. It makes certain important truths about the working of a system of power politics, and their meaning for America, crystal clear. An understanding of these truths is important for economists. Many of the crude and fallacious "economic" explanations of state behavior stem from ignorance of them. Had some Americans been less naïve on these matters we might have been spared the grievous blunders (and the nearly disastrous effect on our policy in the middle thirties) associated with superficial economic interpretations of our entry into the First World War. The driving home of the balance of power principle—a principle which any great state in a power-politics world neglects at its peril—and its detailed exposition in terms of the "grand strategy" of America's relations to other parts of the world is Professor Spykman's greatest contribution.

The more specifically "economic" material appears mainly in connection with the problem of how well the Western Hemisphere or some portion of it could be defended were the balance of power to be abolished in Europe by a Hitler victory and in Asia by a Japanese victory. Almost half the text is taken up by this discussion and the whole book is focused on it. There are three economic chapters: "The Economic Pattern of the New World," "Mobilization of Natural Resources," and "Economic Integration." The analysis here is ably presented and the conclusions are sound. Mr. Spykman holds that an Axis victory would result in supranational units of continental dimensions against which "the United States alone would be powerless to exert effective pressure in spite of her overwhelming strength in a world of national states" (p. 300). In the Western Hemisphere, "nothing less than the creation of a single *Grossraumwirtschaft* incorporating the whole hemisphere and administered on the basis of a planned economy with regulation of production and central control of international trade could stand up against such concentration of power." Yet the chances of achieving such an integration by voluntary coöperation would be very small indeed, and the German-Japanese alliance would possess powers of economic coercion over certain states of South America superior to our own. "Unfortunately both geography and economic history have conspired to make the Americas unsuited for integration" (pp. 338, 341). The argument correctly emphasizes that the basic economic problem of Western Hemisphere isolation, from the power point of view, lies in an export surplus, mainly agrarian, that the United States could never absorb and that could not be readily converted to other forms of production.

There is a good statement (pp. 293-94) on the limitations of past research into problems of raw material procurement and on the relativity of raw material needs to shifting types of warfare. On page 299 some misleading impressions, which might have been avoided by using percentages, are given by a list of commodities which a victorious Axis could withhold. Nickel is listed as a material that Japan might control in Oceania, although more than 85 per cent of the world's nickel has been supplied by Canada in recent years and only relatively small amounts come from New Caledonia. The account of stock-piling in the United States (p. 312) does not seem sufficiently critical of actual accomplishments. On page 314 and elsewhere it would be well to point out that power is always *relative,* so that "an adequate war industry" is a hazy concept. The statement on page 325 that the commercial policy favored by the United States Department of Agriculture was in "complete contradiction" to Mr. Hull's policy is much too sweeping. Terms like "overpopulated" and "favorable balance" are sometimes used uncritically (p. 273), and the implied explanation of capital exports in terms of national production outrunning national consumption (pp. 256, 280) is overly simple. The trenchant observation on page 332 that "loans create neither gratitude nor dependence. . . . Not favors already received, but favors still to be received create for the donor a position of influence and power," is worth underlining.

Considered simply as a treatise on how to play the game of power politics, and not on the issue of what America's basic strategy in world politics should be after the war, Mr. Spykman's book deserves high praise. Even so, it has

blemishes, some of them serious. The "geopolitical" approach tends to distort reality by exaggerating certain aspects of reality and suppressing others. Of course, it is not inherent in a proper appreciation of geographic factors to underestimate the importance, even for the most hard-boiled power politics, of social institutions and traditions, freedom and slavery, the hopes and fears of human beings, right and wrong. Mr. Spykman has been accused, with some justice, I think, of underweighting these intangibles. There is danger of "geopolitics" becoming something of a fad, a magic word of incantation supported by other magic words like "heartland." An interesting slip, for a book based on the thesis that geography is "the most fundamental factor in the foreign policy of states," occurs at page 134. The Amur River is made to reach the coast at Vladivostok on the Japanese Sea, whereas its real outlet is eight hundred miles farther north, near the northern tip of Sakhalin.

In the great debate which was at its height while Mr. Spykman was writing this book, "hemisphere defense through hemisphere isolation became," as he says on page 6, "the new streamlined version of the old isolationist position." *America's Strategy in World Politics* very effectively and exhaustively demolishes that new isolationist position and builds probably the most thorough and conclusive case yet presented on strategic grounds for an active policy of American participation in transatlantic and transpacific affairs. Before the book was in print, however, the immediate issue had been settled. The decision between offensive and defensive war strategy, to which Mr. Spykman also applies his argument, has likewise now been taken.

The question of war objectives and post-war policy remains: "Is the world beyond the oceans one from which we can withdraw after victory as we did in 1918, or one whose fate is inescapably interwoven with our own?" (p. 7). Even this question, in the bare form of withdrawal *vs.* participation, may be fairly well settled by now, judging by statements of public officials and trends of public opinion polls. The real issues still to be decided, and the ones toward which thought and discussion need to be shaped up, concern the *manner* and the *objectives* of our participation. It is at this point that I find Mr. Spykman's book definitely unsatisfactory. He reaches conclusions on these points. But they are almost *obiter dicta*—brief, dogmatic, not well thought through, and not well supported by careful argument. In some respects they are out of accord with the analysis advanced elsewhere in the book. Has the author given only cursory attention to these problems? May we hope that he will return to them and, by applying his demonstrated powers of analysis, remove some of the weaknesses and inconsistencies in his present position?

Specifically, Mr. Spykman advises America to play the old game of nationalistic balance-of-power politics along the old lines. He does advocate some improvements in techniques, such as creation of states of more homogeneous size, and use of leagues of states as a framework for the operation of the politics of power. He would have us regard our present friends as potential enemies and, for example, take care that China does not overbalance Japan in the Far East. Elsewhere in the book (Chapter I) the author's own analysis shows that the game of power politics must lead to recurrent wars. The "balanced power" which we are advised to make our objective is "inherently

unstable" because each state really wants an overbalance in its own favor, because there is no reliable measuring stick for power, because the elements contributing to it are not static but dynamic, because states may upset calculations by suddenly changing sides, and because not all statesmen who play the game of balanced power are good technicians (pp. 21-25).

Even this formidable list of reasons why Mr. Spykman's formula will not work is deficient. He does not add, but ought to, that democracies are not well adapted to playing the balance of power game, because they are not cold-blooded enough to change their friends and enemies in time to preserve equilibrium, and because they are loath in time of peace to devote their economies and their educational systems to the arts of war. Reliance on the balance of power principle as anything more than transitory re-insurance while we are establishing and perfecting some system of world government is handing over the future to the fascists of the world, even if we do defeat them in this war.

Furthermore, Mr. Spykman appears to be totally unconscious in this connection—though he sees it in other connections—of the fundamental changes which the evolution of the modern industrial system has wrought in the workings of power politics and the possibility of a balance of power. In the days when the classic balance of power theory arose, and even through the nineteenth century, sovereigns could fight wars of limited objectives without disturbing very greatly the economy or the civilian lives of a large proportion of their subjects. The mechanized warfare of today, where the military forces have become the cutting edges of gigantic industrial machines, has changed all that. Adequate preparation for war nowadays means conversion of the whole economy to military purposes. A peaceful civilian state cannot in the future count on its wealth as a "power potential" to defend it against lightning war by militarized states. If one state militarizes its economy, the others will have to do so for protection. Power politics in an era of total war is incompatible with the existence even in "peacetime" of civilian welfare economies. Mr. Spykman puts it well himself on page 40: "Total war is permanent war."

To all this he would doubtless reply that admittedly the balance of power system leads to recurrent wars, and admittedly war is "unpleasant" (Mr. Spykman's word), but "In an international society in which states are intent on preserving their independence, both against world conquest and against world government through federation, balanced power is the only approximation to order" (p. 25). This last statement correctly states the alternatives, but in my opinion it exaggerates the possibilities of even an approximation to order in the future through balanced power. Mr. Spykman's "realism" is in this respect the realism of past centuries. Under the conditions of the middle and late twentieth century the first two alternatives (world conquest or world federation) are most likely to be the only two left— because of the rapidly developing technology of transport and communication, because of modern large-scale industrial and political organization (including organization for war and conquest), and because of the great difficulty under modern conditions of changing back and forth between war economy and peace economy.

The realistic outlook is for some form of concentration of world power through conquest or through federation, or through a combination of the two. "Balance" among independent power units is out. Frederick L. Schuman in his *International Politics*[1] shows that previous state systems have ended in conquest by a strong state which upset the "balance" and overran the whole of its world. The Western State System, through an era of unprecedented economic development and geographical expansion, has thus far been an exception to this rule. It is unlikely to be an exception much longer, unless world government through federation supersedes power politics, thus averting the otherwise inevitable drift from unstable power balance to the Third World War and the ultimate triumph of a Caesar.

This is not to say that the balance of power principle can be neglected with safety in the arrangements after this war. In my native state of Nebraska the first stories of a fine capitol building were erected *around* the old capitol. Only when the offices had been moved into the new structure was the old one torn down and hauled away. Something similar should be Amerca's strategy in world politics. We have to play the power politics game, but our constant aim should be to hasten the day when world government will supersede power politics.

Three egregious errors in Mr. Spykman's discussion of these issues remain to be pointed out: (1) He uses the word "power" in several different senses and sometimes passes unconsciously from one to the other. This logical fallacy allows him to argue that, because we have log-rolling for voting "power" and even have struggles for "power" in ladies' sewing circles and Christian Endeavor societies, we may as well reconcile ourselves to a constant struggle among national states for military "power" (pp. 11-14, 458). (2) A closely related error, and one amazing in a political scientist, occurs in his sixteen-line discussion of "world federation" (p. 458). It is perhaps just as well that world federation is still far off, because "the world state would probably be a great disappointment . . . the struggle for *power* would continue. Diplomacy would become *lobbying* and log-rolling, and international wars would become civil wars and insurrections, but man would continue to *fight* for what he thought worthwhile and *violence* would not disappear from the earth." Is not the whole benefit of organized government wrapped up in substituting one kind of struggle for "power" for another, and in creating a situation where men "fight" for what they think worth while by log-rolling (and, at times, by reasoned argument) instead of violence? Does not experience show that men are more likely to be able to practice the economics of welfare (instead of the economics of power) under a system of organized government, despite occasional civil wars and insurrections, than under the unstable "balanced power" of a system of anarchic sovereignties—especially in these days when "total war is permanent war"? (3) "Illustrations of international coöperation and limited confederation are many, but there has never been a case of the actual transfer of military power and political authority from individual

[1] This is the best book to give economic students needed background on power politics and, hence, on power economics, especially chap. 7, preferably supplemented by chaps. 1, 2, and 13 (3rd ed.).

states to the organs of an international community" (p. 16). This statement is either tautology (an international community ceases to be international if enough military power and political authority are transferred to its organs), or it is untrue. What about the thirteen states that united in 1789? Switzerland? The unification of Germany? Of Italy? Political integration is one of the most notable processes in history. Most often it has come by conquest, less often by consent. By one or the other form of the process, "international relations" in countless instances have become "domestic relations" and peace has become usual within areas where war was endemic before. The Greek cities used to make war on each other. Gascony used to war against Burgundy. If American interests include democracy, political stability, and welfare economics, then our wisest strategy in world politics is to promote, preferably by consent, the age-old process of political integration, this time on a world scale.

EUGENE STALEY

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Business Finance; Insurance; Investments; Securities Markets

Modern Corporation Finance. By WILLIAM H. HUSBAND and JAMES C. DOCKERAY. (Chicago: Richard D. Irwin. 1942. Pp. viii, 853. $4.25.)

This study, the authors declare, ". . . is intended to review financial principles and practices in the light of the pronounced changes which have occurred in recent years" (p. v). Active public regulation has exercised a profound influence on the activities of corporation finance. Numerous laws and regulations, molded by a sharpened public interest, have tempered the spirit of motivation and direction. There have been many changes in recent years. Modern developments, especially those pertaining to the social responsibility of management, have given corporation finance a new hue.

Despite the many changes, functions have endured. There is a structural background to corporation finance. This study emphasizes change in the light of a cumulative and inherited past. Little attention is given to the merits or demerits of any particular order. The authors intend merely to recognize change as an objective fact.

The book is divided into eight sections entitled: Economic Setting, Instruments of Corporation Finance, Organization and Structure of the Corporation, Security Distribution, Income and Current Operations, Corporate Expansion, Failure and Reorganization, and Public Policy. Each section contains from two to eight pertinent chapters. Each chapter is filled with current information and an excellent analysis of current topics. The financial journals and reports have been combed for examples to illustrate each particular subject. The book is thoroughly documented.

While this writer is impressed with the fund of information and new material reported, nevertheless the assembly raises an important question.

Corporation finance is concerned with only a fragment of the economic scene. Basically, the authors declare (p. 6), it serves two important functions: It provides a means of assembling funds for business; and it involves the financing and policy formulations necessary properly to coördinate the productive elements of a going concern. These functions are important and yet they are not independent variables. Many factors involved in the collection and distribution of funds and in the formulation of policy depend upon elements which are external to the corporation. The decisions of management and the investing public cannot be comprehensive if the corporation is considered as an independent economic unit.

The authors have done much to impress this point of view on the reader. For example, there is an excellent chapter on the sources of long-term capital, and the chapter on working capital is well documented. The fact that the reader is instructed in sources is not, however, enough. The student should be familiar with the problems involved in making a decision whether or not to invest. He should see the plan for the particular corporation in the light of alternative investment opportunities.

Writers frequently disagree about the contents that should be incorporated in an elementary textbook. Many limit themselves to descriptive material. They describe the methods by which corporations are organized and they discuss the contents of innumerable security contracts. Attention is given to corporate financial statements and to problems of consolidation and reorganization. There is without doubt a definite need for such material, since most students are totally unfamiliar with techniques and instruments and the university provides an introduction. Nevertheless, this writer agrees with N. S. Buchanan that it is all very well to include descriptive material within the text, but corporation finance is ". . . likely to remain unassorted and unrelated piles of gaudy and drab materials"[1] unless there is a firm theoretical skeleton. The future of analytical corporation finance is inescapably bound to the future of theoretical economics. There is some doubt that the authors would subscribe to such a statement.

Despite the wealth of material on financial practices and principles, there is one subject which, with some exceptions, was overlooked. Much of modern business is government business. The government corporation has undertaken to perform many functions, some of which were formerly within the realm of private business. In fact, private and government corporations are, in some fields, competitors. Under the circumstances, a text on modern corporation finance should include some description and some analysis to reveal the function of the government business corporation.

In fact, this writer believes that too little attention is given to the nature of the corporation. It is true that much valuable time may be wasted by tracing the history of corporateness. Ancient corporations were not the counterpart of the modern business corporation. On the other hand, the student may acquire a more thorough understanding of such subjects as stock and par value, for example, if special emphasis is placed upon the corporate person-

[1] N. S. Buchanan, *The Economics of Corporate Enterprise* (New York, Holt, 1940), p. v.

ality. This need not be done in a manner that leaves the impression that the corporation is concrete and constant.

The corporation is an institution which was developed to facilitate modern business. For convenience, it is called a person. The corporation and the stockholder are, of course, two different persons. The form and limits of their business relations are expressed and implied in a peculiar kind of contract called stock. Since persons may have many different business relations there may be many different kinds of stock.

The corporation contracts with persons to carry on the business for which it was formed. Since the corporation and the stockholders are not the same person, the latter cannot be held responsible for the corporation's obligations. The stockholder's liability for the corporation's debts should be limited. Par value is the amount of the stockholder's liability or a base to be used in its determination.

The fact that the authors do not have a skeleton on which to hang their material does not distract from the book's usefulness. They have accomplished their purpose admirably. Many financial principles and practices are reviewed in the light of the pronounced changes of recent years. The material on regulations and on Sections 77 and 77B is excellent. This writer is in thorough agreement with all that is said. He is merely disappointed in the fact that a book with the word "modern" in the title does not make more use of the unhappy discovery that our world does not consist of a very large number of independent cells.

EDWARD G. NELSON

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Utilization of Corporate Profits in Prosperity and Depression. By O. J. Curry. (Ann Arbor: Univ. of Michigan Press. 1941. Pp. 131. $1.00.)

Students of corporate affairs will welcome the monograph on the *Utilization of Corporate Profits in Prosperity and Depression* by Professor O. J. Curry. It is a good statistical study of the financial record of corporations bearing upon the subject of income administration.

There has long been a need for a careful factual study of the problem of corporations retaining earnings in lieu of paying cash dividends. There are many advocates of the policy of building up surplus during prosperous years to provide a fund that will be available in poor years. On the other hand, a large group do not believe that surplus accumulations are a cure-all for corporations during depressions or that such accumulations will maintain dividends in poor years. This study will give us a much better basis for our opinions than we have had heretofore.

The author of this investigation has made an important contribution to the field of corporate studies by giving us a careful statistical analysis of a significant segment of the corporate system. Professor Curry probes intensely the subject of corporate income administration and contributes a scientific

study in contrast to much material on the question which merely assumes the right answer or is definitely fallacious. The author has organized the study well and the presentation of the data is clear, but tedious in some parts.

The financial records of 72 well-known corporations in 12 distinct lines of industrial activity comprise the raw material for the study. The analysis of these companies covers a period of 15 years, 1922-36. The sources of information for the investigation are the reports of the corporations to stockholders. While the 72 companies are not a perfect statistical sample of all corporations, they would appear to be a satisfactory one for the purpose of showing a phase of the financial policy of an important segment of industrial enterprises. The companies analyzed are held to be quite representative of each of the 12 industries. Assets of the 72 corporations aggregate nearly 10 billion dollars.

The stated goal of the author is to show "how much of the profitable period earnings were reinvested as compared with the amounts paid in cash dividends, how the withheld earnings were invested, and what eventually happened to the investment" (Preface). The author's chief objective "is to show by specific companies the earning and dividend records during the prosperous twenties and to demonstrate that a very small proportion of dividends withheld during the good years reached the stockholder during poor years" (p. 26). It is not the intention of the study to pass upon the merits of reinvesting earnings or to decide whether or not it is good or bad for stockholders.

Chapter 2 gives an analysis of reinvested earnings and corporate expansion of the 72 companies for the period 1922-30. About 40 per cent of the total net income for the decade was retained. There is no pattern indicated among individual concerns. Only 17 companies retained 50 per cent or more of their income while 14 companies retained less than 25 per cent.

Retaining earnings is a very important method of financing corporate expansion. Almost three-fourths of the companies studied financed at least 50 per cent of their growth by this method. Nearly one-half of the corporations expanded their assets from retained earnings by more than 50 per cent of the total assets at the beginning of the study.

Chapter 3 shows the relationship between reinvested prosperity earnings and depression dividends. The conclusion is that "there is no apparent relation between earnings reinvested during the twenties and dividends paid during the early thirties" (p. 93). Two-thirds of the dividends paid by the 72 companies in 1931-33 were from current earnings. The other third came from surplus and was about 20 per cent of the earnings retained in the period 1922-30. Dividend policies in the depression seemed to be largely predicated upon current earnings. Most of the companies having substantial earnings in 1931-33 increased common dividend payments. Those companies with little or no earnings in the depression made drastic reductions in dividend payments.

What disposition did the 72 corporations make of the retained earnings? In general, the reinvested earnings for the period 1922-30 plus new capital from securities were invested in plant facilities, retirement of senior securities, cash and liquid securities, inventories and receivables. The investment in any single item was not large relatively. There was no particular pattern discernible

among individual companies. This is true of companies in the same industries. It is clear that reinvested earnings were primarily used to increase productive facilities, that no fund was set up to draw on when revenues declined.

Chapter 5 is devoted to asset liquidation and earning deficiencies. It shows how specific corporations met their depression losses. Taking the 72 companies as an aggregate, the assets liquidated to the greatest extent in the period 1931-33 were receivables, inventories, cash and plant assets. Current assets were liquidated more than plant facilities. Asset liquidation policies varied widely among individual concerns. In summary, we may say that net income retained in the prosperous period is invested in various assets and that the same classes of assets are liquidated in the poor years to provide funds to meet the deficiencies.

While the monograph is to be commended as a piece of research, the exposition is only fair. The purpose of the study is stated so often throughout the manuscript that it becomes monotonous. A few sentences have words disarranged, such as "the companies invested the funds 25 per cent or more . . ." (p. 72). On page 6, footnote 14, H. M. Keynes should be J. M. Keynes. In Table 5 "thirty-one companies" are mentioned but only 30 are listed. There seems to be a discrepancy in the written material on page 37 and the data in Table 6. These are minor flaws and do not seriously impair a valuable study.

N. Gilbert Riddle

Ohio State University

Public Control of Business; Public Administration; National Defense and War

The Supreme Court and Judicial Review. By Robert K. Carr. (New York: Farrar and Rinehart. 1942. Pp. xiv, 305. $2.00.)

The series, Government in Action, to which this volume belongs is an attempt to revive a great tradition. It aims to present the American commonwealth with sweep and intimacy and to do for our age what de Tocqueville and Bryce did for theirs. The grand manner, however, is no longer within the reach of the solitary scholar, for vastness of subject and precision of craft forbid. The stuff of life can be discovered only by the person who limits his parish. The over-all has to be acquired through the hearsay of secondary sources. A general treatise is almost certain to be cold and solemn and dully remote. A cocksure attitude almost inevitably betrays a lack of mastery over material. The editor's way of escape is to break down "the art of government" into "its institutional forms," to rely upon "special competence" for fact and drama, and to secure perspective through "varied outlooks." A group of observers is to replace the great commentator; the entity is to emerge, not as an articulated treatise, but from a constant shift in topic and viewpoint.

By the editor's norms, Robert Carr has done well his task. His book is addressed to the college student, whom the author takes to be a novice in the

subject, an intelligent human being, a person curious to know why. Its spirit is of inquiry, not the parade of a system or the expounding of a gospel. Although Carr's articles of faith stand out clearly, he is careful to recite the arguments which tell against his positions. There is no telling it to the boys, no display of an erudite vocabulary. Although the most perplexing issues are not avoided, there is no writing down. Even in the discussion of such confusing mysteries as due process, the circle of commerce, a political question, the style remains simple and clear. The author presents an institution beaten upon by the course of events and far from its final form. He keeps to the front the volatile element in his material. The reader, even though an undergraduate, must make up his own mind.

The quality of tolerance is the more remarkable in view of the author's intent. He postulates his undergraduate and the home from which he comes. His "essay"—the word is his—attempts to establish an enlightened attitude toward the work of the Supreme Court and its controls within the national economy. It is no easy task, for minds young or old, to take a Constitution which is a source of authority and transmute it into a Constitution quite useful in providing sanctions for judicial decisions. Or to make clear how a doctrine, such as judicial review, freedom of speech, or commerce among the several states, responds in its development to changes in economic belief. The author insists that his book is not upon the law of the Constitution. Yet his topics are the storm centers of judicial attention; and the great battles, in which he pits social legislation against *laissez-faire,* are of a kind with conflicts over even minor doctrines. In his account the accent falls as it should upon the actor, the Supreme Court; and constitutional law emerges as a secondary phenomenon, the utterance of a group of men working within an established institution. The ardent, almost crusading, intent is to blast at a rock of ages —and the wonder is that it is done with so much poise and tolerance and sweet reasonableness.

Thus stands the book when measured by the editor's standards. But the reviewer has a right to the it-seems-to-me of his own norms. The story of due process, as set down in the law journals, is far more dramatic, and its mutations far more sharply defined, than would appear from these pages. Carr praises Mr. Justice Holmes for his argument in the Lochner case that the regulation of hours of labor is constitutional. The more modern view is that Holmes passed up a glorious opportunity to insist that the challenge to the statute should be dismissed for want of jurisdiction. Nor does the author adequately expose the sheer fictions by which the Court has attempted to draw the line between national and state control. To qualify commerce by such terms as "stream of," "burden upon," "come to rest," "direct and indirect effect upon," is at best to confuse the physical movement of goods with the operation of an industry, and at worst to make figures of speech do dialectical duty for realities. A criterion which goes back through Marshall to the Randolph Resolution is more in point. It holds that the Congress has power over those matters which lie "beyond the competence of the several states" and thus invites the justices formally to recognize what as men they already

know—that there is such a thing as "the national economy." He fails to reveal how procedural devices are used as ways into court—or to keep substantive questions from ever being raised. And to his detail here and there one notes an exception. In respect to Dr. Bonham's case, he overlooks Samuel Thorne's penetrating study; he refers to the *Encyclopedia of Social Sciences,* not by title of article, but by volume and page; he calls Mr. Chief Justice Fuller "a brilliant practicing lawyer"—a fact concealed from public and students all these years.

But my most serious quarrel is with the conception of the college student toward whose enlightment the book is fashioned. Carr seems to regard him as interested in an old battle, not in a current trend. A little while ago the author would have been regarded as radical; today I know no Wall Street lawyer under forty-five who would take serious issue with any of his theses. A decade ago, the denial that judicial review was a reference to the higher law was a fighting faith. And an insistence, with a trio of opinions as evidence, that judgments were human and finite and fallible—oh, so fallible!—was at any time good for an uproarious class-hour. But in due time the iconoclasm of the law school ripened into a demand for court reform. Although the battle was lost, the bench hastened to amend its ways. Now a return to the old attack calls from law students only a "So what?"—and the institution called judicial review takes on a new identity. As long as there is a high bench whose task is error and appeal, it will contrive techniques for asserting its authority. No change in personnel, no self-denying ordinance, is proof against the urge of those in command of an establishment to enlarge their dominion. The new court, like the old, is busily aware of its office in the national economy. As old issues are forgotten new ones intrude and dialectic, like clothes, responds to changes in fashion. For divisions did not cease when the Four Horsemen—technically Van Devanter, McReynolds, Sutherland, and Butler, JJ.—left the bench. Nor did foxiness depart with the passing of "the Old Fox"—known to the Reports as Hughes, C. J. The tricks of the trade, recently displayed in the opinions, mark the current bench as worthy successors to adroit craftsmen. And I wonder if even college students do not deserve to know something of what the most powerful of lawmaking bodies is now up to.

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Patents and Antitrust Law. By LAWRENCE I. WOOD. (Chicago: Commerce Clearing House. 1942. Pp. xiv, 218. $3.50.)

The relationships of the patent system to the operation of our industrial machine and to our basic national economic policies have been sharply limned by events of recent years, beginning with the hearings before the Temporary National Economic Committee, the many indictments brought by the Department of Justice against patent-holders under the antitrust laws, and culminating in the recent hearings before the Senate Patents Committee. While

the "patent problem" is not a by-product of the current crisis, the impact of war and the economic pressures generated by sudden mobilization of our full productive potential have served to crystallize many of the moot issues centering on the scope of the privileges (not rights) conferred by the issuance of a patent.

It is as a frame of reference for present and future discussion that *Patents and Antitrust Law* has outstanding value. The worth of this serious and scholarly effort to introduce better order to the confusion and ambiguity surrounding "the patent question" has been recognized by its receipt of the First Award of the Linthicum Foundation Competition for 1941.

Before taking up the specific contentions which follow from the thesis of the work, certain impressive features of Mr. Wood's study should be recorded. First, the patient probing and dispassionate objectivity which are manifest throughout the book are unusual qualities in dissertations dealing with patents. Secondly, the sumptuous documentation, the range of the author's perspective, and his high regard for accuracy give the construction of the analysis a mathematical nicety and precision. Finally, while the style is necessarily exact and legalistic, it retains a terse spontaneity contributing much to the general utility of any such study.

In summary form, the author's discussion begins with a résumé of the historical background of the patent system, and of the initial incidence of the antitrust laws on patent disputes. The "dilemma" between the purposes and interpretation of antitrust legislation and the "rights," which a patentee acquires with the patent, to "monopolize" is stated and dissected with skill, and a distinction is made between those problems "revolving about restrictions imposed by the individual patentee, and those which arise from the use of patents by corporate combines" (p. 35). The ruling and at least the principal cases which have occurred in each sector of conflict in the area of doubt are briefed succinctly, together with extensive supporting or relevant citations. Restrictions on prices of patented products and on the user of patented processes or devices are treated at length, and the various practices which have in one way or another collided with the antitrust laws are comprehensively catalogued.

The fundamental and truly gigantic problems created by patent pooling are charted *seriatim*. The convergence and intersection between patent consolidations and antitrust policy are examined in detail, and we are provided with a coherent digest of all major cases of this category which have come before the courts or legislative committees of inquiry in recent years. In itself, this summation of the many notable instances of patent pools which have been considered by the T.N.E.C., or which have come within the ambit of a rejuvenated policy of enforcement of the antitrust laws performs a real service. The author's execution of this task renders his book a "must" addition to the reference library of economists and attorneys working in this field.

With so much of good that can be said about his work, it is surprising and regrettable that, in the reviewer's opinion, the author fails in what must be regarded as the real test of a significant contribution to the development of

public policy, namely, a forthright effort to resolve, or at least outline acceptable solutions to the riddle he has propounded. Having obtained wl might be termed an "elegant" equation among the variables of theory a fact, little effort is made to go forward boldly to the results logically impel by the author's own calculus. If the analogy may be extended, the problem differentiated, but not integrated, and the halting, rather diffident suggest that "the resolution [of the dilemma] must remain a function of the judic process" is hardly acceptable after such mordant exposition of the abuses which the patent franchise is subject at the present time. The judicial proce *per se,* cannot and should not be called upon to enunciate principles of ba economic importance, and certainly the courts cannot be expected to prov either the impetus toward or the broad expression of the "transvaluation" patents necessary to the elimination of the malpractices flourishing so p fusely in our industrial system.

A statement made recently to the effect that "Production is the key victory, and patents are the key to production" emphasizes the critical aspects the patent question. Because of the concentrated controls which inhere patents over industries having vital strategic value in war, and hardly l moment in peace, and our loss of the industrial initiative, resulting direc from patent restrictions, the use of patents to divide markets geographical to divide the universe of technology functionally, and artificially to cre scarcity by inhibiting expansion of capacity is stripped of all claim to prot tion. Moreover, it is clear that the remedy lies in the realm and in the power legislation. In so far as the antitrust laws are concerned, they require expli formal extension, so as to prohibit in a positive manner the types and degr of misuse revealed, for example, in the hearings before the Senate Pate Committee. As for the patents themselves, it must be made entirely clear tl they impose on the patentee the same responsibilities of public trust, as w as the immunities, implicit in any form of "property," or, rather, public fr chise.

In fairness to Mr. Wood, it should be stated that some of the cases, su as the Hartford Empire (glass container) case had not progressed to the po of decision at the time his book was published so that he could not ben from the sweeping opinion handed down by the District Court. Had he be in a position to do so, it is conceivable that his treatment of several of other similar instances would have been different.

The points of difference raised do not impair the stature of this study. I not too much to say that, as our knowledge of the factors, forces, and iss involved in the patent problem increases, it becomes correspondingly m evident that, both nationally and internationally, the economic character o post-war world will be markedly affected by the rationale of our patent poli To the requisite understanding of the complexities and difficulties which v be encountered, *Patents and Antitrust Law* furnishes an exceptionally use introduction, but in no sense the definitive term.

CHARLES A. WELSE

Washington, D.C.

Patents and Industrial Progress. By GEORGE E. FOLK. (New York: Harper. 1942. Pp. xiii, 393. $3.00.)

This is a piece of propaganda literature for the maintenance of the present patent system and against the "revolutionary recommendations" (p. 59) adopted by the Temporary National Economic Committee. The title had led me to expect a much-needed study of the economic significance of the patent system. What I found instead was nothing but an attempt to refute or disparage every anti-patent enunciation that is contained in the record of the T.N.E.C., and to reproduce, almost in full, all pro-patent testimony given in the committee's hearings. About two-thirds of the book consists of quotations.

The allocation of space to topics is the following: 56 pages on "The Case Presented by the Department of Justice" (automobiles, glass containers, fiber-glass, and beryllium); 30 pages against Professor Walton Hamilton and his *Patents and Free Enterprise* (T.N.E.C. monog. no. 31); 146 pages on (and, especially, from) "The Case Presented by the Department of Commerce" (Commissioner of Patents and many witnesses eulogizing the grand things patents have done for mankind); 22 pages against "Compulsory Licensing"; 48 pages on other "T.N.E.C. Recommendations"; 31 pages, as an appendix, on "Patents and the Antitrust Laws." This Appendix, containing excerpts from Supreme Court decisions, may constitute to some readers a useful job of compilation.

But what value, other than propaganda, can there be in the reproduction of testimony of well-meaning engineers, interested business men, and seasoned patent lawyers expounding their naïve economic theories about the social benefits of the patent system? Does the author really believe that it proves anything about the problem of patents and unemployment, or patents and the standard of living, if he reprints what others think about it? even if the cited expounders of economic theory are great experts in their fields, such as radio engineering, carburetor production, chemical research, patent law administration, etc.?

I do not criticize the book and its methods of "analysis" because it defends the patent system. In this attitude the author may or may not be right. I have the same respect for an advocate or an opponent of a policy if only the analysis which he presents is well-reasoned, keen, scholarly. What I am opposed to is propaganda in the disguise of analysis. The book perhaps contains legal arguments, but it contains no economic analysis. And I am nauseated by the pitched tone of conviction in a lawyer's plea in the face of awkward evidence; such as the plea for the glass-container industry, of which the author says that "other machines and processes are open to those having sufficient capital and the 'know-how' to enter this *highly competitive business*" (p. 60; italics are mine).

The polite words on page 77 which the author directs to Professor Walton Hamilton might much better be applied to himself: "His effort to prove a preconceived view has so warped his presentation as to make it of little, if any, help in a study of the patent system."

FRITZ MACHLUP

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Industrial Organization; Price and Production Policies; Business Methods

Commodore Vanderbilt: An Epic of the Steam Age. By WHEATON J. LANE. (New York: Knopf. 1942. Pp. xiv, 357. $3.75.)

The well-known principles of free private enterprise under which our economic system presumably operates accord a key position to the entrepreneur or business man. As the organizer and supervisor of factors of production he presumably satisfies the consumers' wants in the most efficient way and at the same time rewards himself with a moderate amount of profits. Accordingly, one should expect to find business men of the past and present popular objects of study from this point of view. Such studies supposedly should be seeking answers to the question whether the quest of specific business men for profits has resulted in benefit or harm to the community. Particular attention might be paid to the extent to which the profits, if any, were due to the abilities of the entrepreneur and to what extent they were a result of the institutional structure of the community.

Needless to say, very few biographical studies of business men have given us answers to these questions. Perhaps this is because many biographers are not well trained for such a job or because they feel that there is insufficient public interest in such prosaic matters. Perhaps a more important reason is the fact that the study and measurement of causal factors is a very difficult task for the social sciences. In my opinion, this study of Dr. Lane's is a long step in the direction suggested above. He has managed with remarkable success to steer a middle path between the uncritical, hero-worship type of biography and the savagely debunking study which has appeared so often in the past. The publishers justly emphasize the chief characteristic of the book, *viz.*, the placing of Vanderbilt's money-making activities against the economic background of his time. We learn of the place Vanderbilt's ferry enterprise at Staten Island had as a part of the New York-Philadelphia-Washington route. His steamboats in New York harbor, on the Sound, and on the Hudson are placed against a setting of economic problems of the area. His interesting Nicaraguan episode becomes a part of the conflict between the United States and Great Britain over the important route to the California gold fields. Vanderbilt's brief venture into the Atlantic run between Europe and New York is tied to the activities of others and to the much-debated subsidy question.

The book is at its best in the treatment of Vanderbilt's active interest in railroads at a late stage in his life. The author draws skillfully a picture of the position of the Harlem Railroad on the New York-Albany route and how Vanderbilt, apparently this time lacking in farsightedness, was constantly forced to expand his railroad activities because of the competition of other lines. In this way he became interested in the Hudson River Railroad because of its better route to Albany and, as a result of a disagreement over the transfer of passengers and freight, he reached for the Central itself. Later, the Erie claimed his attention as an obstreperous competitor and the oft-told "Battle of Erie" is here related to the financial *mores* of the times. Finally, the midwestern connections of the Vanderbilt lines to Chicago were acquired

as the importance of a transcontinental rail route was realized.

In evaluating Vanderbilt as an entrepreneur, a few interesting sidelights come to light in this study: Vanderbilt's dislike for cutthroat competition and his successful opposition to it seem to have commenced early in his career as a ferry captain, and his original methods were merely transferred to other enterprises. But he opposed monopoly, too—if it was directed against him! Vanderbilt's relations with the stockholders of his corporations are an interesting contrast to certain incidents of the present day. With the exception of his Nicaraguan experience, the stockholders usually gained or lost with their chief because of the fact that the Commodore himself was customarily a large stockholder.

There is little doubt that the Commodore's methods were often socially questionable, particularly when he was tempted to take the law into his own hands to punish those who had hurt him. Lane's background material implies also that much of the Vanderbilt profits was undoubtedly due to the general development of the nation. The rapid growth of New York City, the need for better communication with Philadelphia and Washington to the south and Boston on the north, the settlement of the West and the consequently increasing volume of trade with the Atlantic Coast all made for extraordinary profits. Last, and not least, were the legal and financial institutions (the stock exchange!) which enabled Vanderbilt to make his money almost undisturbed, except by the invasion of men of similar nature. Yet he was undoubtedly a different type of entrepreneur in contrast to such characters as Drew and Fisk who were essentially parasitical manipulators. Vanderbilt at least usually took good care of the geese that laid the golden eggs for him: his ships and railroads were well maintained and the public seems to have been well served. Above all, he possessed the ability to perceive a public need and satisfy it quicker and better than most of his contemporaries. Whether the price exacted by him was an excessive one for the community to pay is a question very difficult to answer, for it would require among other things the reproduction of hypothetical competitive conditions and a comparison of the "cost" under other systems of economic organization. The following quotation from Lane will serve to show how he disposed of a matter that reaches to the very heart of our capitalistic system: "It is no apology for the Commodore to say, however, that his constructive qualities far outweighed the abuses common to his period. Let us repeat, a railroad empire had been created. . . . It is true, of course, that the Commodore was not an 'empire builder' in the sense that such a man as James J. Hill was. . . . Yet the Commodore was a master of transportation, not a genius for that denotes brilliance, but an imperious dictator with energy and hard business sense. The boldness of his financial operations, his coolness in time of crisis, his fabulous stock watering, the grandiose terminal, the breadth of mind which could order a four-track system at a time when practical railroad men scoffed at the scheme as an extravagant luxury, all these bear witness to the dominant traits of his character" (p. 302).

WILLIAM C. KESSLER

Colgate University

Transportation; Communication; Public Utilities

The Economics of Public Utility Regulation. By IRSTON R. BARNES. (New York: Crofts. 1942. Pp. xxiv, 952. $5.00.)

Professor Barnes apparently believes in the strenuous life, both for himself and others, whether they be teachers or students. His *Cases on Public Utility Regulation,* published in 1938, was a work of 984 pages; and his *Economics of Public Utility Regulation* has 952 pages of small print, and would have had many more had not his publishers proved obdurate. The author believes that the economics of public utility regulation can best be taught to college students on the basis of discussions and reports, and that the case method offers the most promise of developing significant class discussions. Doubtless that is why the case book was completed first. In the book now under review the author seeks to meet the needs of those teachers who prefer the conventional methods of instruction.

The conventional approach is extended to the selection of topics. These include the following: the public utility concept; history; economic characteristics; corporate structure; state and federal responsibilities; instruments of regulation; franchises; accounting; rates; valuation; rate of return; expenses; holding companies; securities; service; Federal Power Commission; public relations; and public ownership.

The undertaking is a praiseworthy one. The book is meaty; usually well written, though not always clear, even to a specialist; and well documented. It has a table of cases (twenty-four pages of fine print), and a selected bibliography. The job of proofreading was carefully done; the number of errors is so few that it would be ungracious to list them.

The author's point of view is liberal and his judgment is good. He favors public power projects of the multiple-purpose type; prudent investment as a measure of the rate base; the use of depreciation accounting; the employment of a fair return on the average (during a business cycle) and the use of an earnings-equalization reserve to promote the regularity of dividends; and indeterminate permits. He believes that public utilities should not, as a rule, be allowed to engage in non-utility business; that in the regulation of operating expenses the burden of proof should be on the public utility, and not on the regulatory commission; that upstream loans to holding companies should be prohibited; that holding companies should forego the use of bonds; that the preferred and common stock of holding companies and operating companies should possess voting power proportional to their investment; that the fair rate of return should be related to the capital structure of the utility; that regulation should not seek the establishment of those prices that would prevail under competitive conditions; and that in publicly owned plants the taxpayers should not be subsidized by the consumers. He regards the public utility commissions as representatives of the public interest, but of the whole public interest, and not merely that of the consumers. Their function is not to drive prices down for the short-term benefit of consumers, but to permit the utilities to realize earnings that will be sufficient to cover the costs of the service, and

that will at the same time protect the consumers against unreasonable rates. He criticizes the commissions for their tendency to relax into a judicial attitude and for not showing the independence and initiative we have a right to expect from a body of public servants trained by experience in the highly specialized task of regulation.

The book contains a number of good summaries or statements of various matters, including the following: legal and economic theories as to the basis of public interest (p. 13); list (citing cases) of businesses that have been held to be public utilities (p. 20); advantages and disadvantages of holding companies (p. 140); weakness of renewal and retirement methods of accounting for depreciation (p. 272); factors employed as tests of reasonableness (p. 290); temporary rates (p. 299); defects of the peak-responsibility method of allocating demand costs (p. 328); objective rates (p. 351); an equitable rule for accrued depreciation (p. 492); determinants of the appropriate rate of return (p. 525); proper treatment of donations, charitable and political contributions, advertising and promotional expenses in the regulation of operating expenses (p. 623); standards to which all securities of public utilities should conform (p. 694); competitive bidding for securities (p. 733); public relations and propaganda (p. 782). Especially praiseworthy is the very effective indictment of present-fair-value theory and the formulation of a sound prudent-investment program.

The principal fault to be found with the book is its length—952 pages of small print (roughly 435,000 words). The treatment of valuation is out of all proportion to its importance. One-quarter of the chapters and nearly one-quarter of the pages are devoted to this topic. The author has likewise overextended himself on the subject of holding companies. He devotes two chapters and 142 pages to this subject, and yet almost completely ignores combinations that take the form of a consolidation or merger. The text is not always well organized, probably due to the fact that it had to be greatly reduced in size on the insistence of the publisher; and it is not always within the understanding of undergraduate students.

An author has the right, it would seem, to have his book appraised on the basis of the purpose it was designed to serve. In the present instance, however, this would not be to the author's advantage. The book was designed as a textbook, but it is too long to be altogether satisfactory for this purpose. Appraised, however, from the standpoint of a serious study for those who have ample time for detailed analysis, the work ranks high.

Eliot Jones

Stanford University

American Highway Policy. By Charles L. Dearing. (Washington: Brookings Inst. 1941. Pp. xi, 286. $3.00.)

This study was undertaken as a result of inquiries from the Commissioner of Public Roads of the United States Public Roads Administration. It relates to the highly controversial economic and governmental issues involved in the

annual collection and expenditure of the 2 billion dollars which has been devoted to the improvement and maintenance of our 3 million miles of road plant. The purpose is "to formulate the principles which should govern the location of responsibility, the exercise of authority, and the distribution of the financial burden with respect to public roads."

A wide range of factual and historical material is covered in brief compass. The first chapter is devoted to the evolution of highway policy in England, France and Germany. The author finds that the road function has been regarded traditionally as an essential activity of government and that the failure of the turnpike or toll system of road administration has made direct participation necessary. Roads have been classified according to the prime functions of each type and the responsibility for the three classes (namely, general purpose roads, community service roads, and local or land access facilities) has been assigned to that level of government having the greatest degree of interest in each. Funds for the support of the road system have been raised largely by ordinary taxation, thus distributing the burden not on the basis of direct benefits from road use but according to the collective benefits of society. There is a striking parallel between the policies of these countries and the author's recommendations with respect to the management of American roads.

In setting forth the facts relating to American highway policy, separate chapters are devoted to the evolution of highway policy to 1916, a description of present highway management by state and local governments and the participation of the federal government in road provision, and an analysis of the system of highway revenues. Statistical materials from the highway planning surveys have been used freely. Wide dissimilarities in administration and financing among the states are noted, the most significant fact being that those states which have attained the greatest degree of centralization of authority over roads rely most heavily upon user taxes for their support. Considerable attention is given to the complications in federal road policy arising from the recovery and relief objectives of the last decade.

The analytical sections of the study comprise chapters on the purposes and beneficiaries of modern road facilities, the proper distribution of managerial authority and financial burden, the general transportation problem, and a summary of conclusions and recommendations. The appendixes contain a lengthy historical review of the good roads movement and some more statistical tables.

Two broad generalizations are reached on the basis of the analysis. The first is that the supplying of roads has always been regarded as one of the essential services of government because efficiency of government is dependent upon mobility, and economic and community life require access to land and other property. The second is that the modern road plant is a multi-purpose facility and the services produced by it are distributed unevenly throughout society. Four major purposes of roads are identified: land access, facilitation of community life, intercommunity mobility, and the expedition of such governmental functions as rural mail delivery, national defense, and education.

Sound highway policy is held to depend upon the recognition of these functions and a scientific classification of roads based on predominant purpose. Such a classification would yield three types: a system of highly improved roads whose chief but not exclusive function is to furnish optimum intercommunity mobility; local roads whose prime function is to permit access to main highways and to facilitate purely community travel; and local roads whose predominant purpose is to furnish access to land. Jurisdiction over the main highway system would be lodged exclusively with state agencies and the inclusion of roads and their improvement would be determined solely by criteria relating to intercommunity mobility. Since motor vehicle users are the chief beneficiaries of these main roads, the financial burden would be placed upon them. Local roads, both community service and land access, would be administered by local units of government and supported by general taxation. Standards of maintenance and improvement would be determined by local needs and the availability of funds. The county is regarded as the smallest effective administrative unit for road management since the township is unable to employ competent professional personnel and proper equipment. The author deplores the recent tendency toward centralization of authority through the absorption of local roads by the state systems and their support from revenues derived from motor vehicle owners. He denies that motor vehicle users are the sole beneficiaries of road services and that actual road use measures the benefits fairly well.

Special attention is given to the problem of distributing the financial burden of the general purpose system among beneficiaries. No attempt is made to ascertain the nature or amount of highway costs. The financial burden appears to be identified with annual financial requirements and as such is to be borne largely by motor vehicle users. Three levies are proposed. The conventional gasoline tax is regarded as a satisfactory measure of highway occupancy. A flat license fee, unrelated to actual road use, would be levied to pay for the fixed capital costs of road plant. The third would be a system of graduated levies upon those vehicles which require additions to road facilities or impair standards of road use because of peculiar operating or physical characteristics. Another source of support, presumably a minor one, would be payments by the federal government to the states to encourage the standards of development required for the proper performance of federal functions, including road use for defense purposes. In considering the highly controversial issue of diversion of user revenues to other than highway purposes, the author notes with approval the growing tendency to prohibit the practice by state constitutional amendment.

The proposals of the author have the advantage of administrative simplicity. Each class of roads would be administered by a unit of government qualified to deal with it and the sources of revenue to support each would be segregated. Some financial adjustments would be made between the federal and state governments and also between the state and local governments, the latter to induce communities to maintain adequate standards of road improvement to facilitate such government functions as education. But they would be kept

to a minimum.

There is unlikely to be general acceptance, however, of his thesis that a large share of financial responsibility should rest upon the general taxpayer. The author does not tell us how the financial burden will be divided between users and the general taxpayer and indeed he cannot until the road system has been scientifically classified. But if the classification yields a system of local roads approximating the present legally defined system of about 82 per cent of the total mileage, it is apparent that very substantial contributions will be made by general taxpayers, despite the unimproved character of much of this mileage. Since nearly all of the nonfederal expenditures on primary systems and almost one-half of those on secondary and tertiary roads were derived from state-collected user imposts in 1935-36 (p. 107), a reversal of a trend in local road financing would seem to be involved. It can not be denied that transport facilities, be they railways, waterways, or highways, perform community service, land access, and other socially desirable functions, but it is also significant that these general benefits are realized largely through actual use of the facilities. Taxes upon motor vehicle users have come to be regarded as peculiarly appropriate as means of payment for road services. It is questionable public policy to shift to the already hard-pressed general taxpayer a large share of road expense. And the general property tax is by no means an ideal tax. This is not saying, of course, that the cost of maintaining and improving rural mileage upon which the density of traffic is low and which is used almost entirely by local traffic should not continue to be covered in part by property assessments and general taxation.

The author rejects the commercial or "public utility" theory of highway finance. Some of his criticisms are well taken. It is true, for example, that requiring users to pay the full cost of building highways will not provide an automatic device for the proper allocation of productive power between highway and other uses. But if one discards the commercial concept it is difficult to understand how one can pass judgment on the question of whether or not motor vehicle users are paying their way. To avoid being subsidized the annual revenues from motor vehicle users must cover the annual economic costs. This test would be applicable to the state highway systems which the author proposes to support by user imposts. It would seem proper to include in annual economic costs at least the expenses of operation and maintenance, depreciation of the plant, and interest on the net investment. To use annual expenditures on the highway system, which the author implies in taking the position that economic costs cannot be determined (p. 101), and in his comments on valuation and historical costs (pp. 170-71), is to use a figure which may or may not be equivalent to the true cost. So long as highways are expanding, it is clear that the annual expenditures include large sums invested in additions and betterments. These items are not chargeable as costs in the current period and must be capitalized. Capital costs are the annual depreciation of the plant and interest on the unamortized capital investment. Any calculation which neglects to consider these elements and to estimate their amount can afford no basis for determining the annual revenues properly collectible from highway users.

The author recognizes the importance of the subsidy issue when he devotes a chapter to the consideration of the general transportation problem. On the question of taxes, he finds that the states have not suffered a net loss in taxes on account of the use of land for road purposes because title is retained by the original owners in some cases and the states tax the increased land values occasioned by road improvements. Since property owners pay the taxes, however, he concludes that motor vehicle users escape this burden and do enjoy some competitive advantage. On the issue of capital costs, he takes the view that highway users enjoy an advantage over railways only in so far as the states are able to borrow capital more cheaply than railroad companies. He states (p. 194): "No items or types of capital cost are escaped simply by virtue of the state management of highways. Under any circumstances amortization and interest charges and maintenance and operating costs must be met." If amortization of debt is meant here and maintenance and operating costs include replacements equal to annual depreciation, there is clearly an overcharge. To include explicit interest only is to fail to recognize the opportunity cost of capital which might otherwise be used in alternative employments, all of which suggests the need for defining and ascertaining the cost elements involved in highway provision. Until it is known whether or not user revenues are sufficient to cover legitimate costs, it is fruitless to consider ways of equalizing the competitive opportunities of highways and railways with respect to particular items of cost.

Attention is called to the advantage enjoyed by that part of highway traffic which competes directly with railroads in sharing the burden of highway costs with essentially noncompetitive traffic. This economy of joint use is held to explain in considerable measure the competitive advantage enjoyed by commercial road users. To sacrifice these economies by an equalization of rates or by placing the full cost of highways upon competitive traffic would, as the author points out, be unwise policy. It is enough if the various highway users are allocated their appropriate share of highway costs.

The book is a very scholarly presentation of the general or common benefit theory of road policy. While the proposals made are worthy of serious consideration, the study has not settled the numerous and difficult questions involved. The debate respecting proper highway policy will probably continue for some time to come.

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Commercial Air Transportation. By John H. Frederick. (Chicago: Richard D. Irwin. 1942. Pp. xii, 493. $4.00.)

Professor Frederick's book is the fourth to appear in the past two years on the increasingly important subject of air transportation.[1] The purpose of the book, as stated by the author, is to bring together and analyze material

[1] For reviews of the three preceding works, see *Am. Econ. Rev.*, Vol. XXXII (June, 1942), pp. 400-02.

from many scattered sources, to overcome a lack which has been felt both in the industry and in universities.

The scope of the book is wide, covering the historical development of air transportation in the United States, the growth and extent of federal regulation, the problems and services of the airlines, and an evaluation of certain government and airline policies. Because of its scope the book will doubtless find a useful place as a textbook for a first course in commercial aviation in colleges. It should also prove valuable to the layman desiring a general knowledge of air transportation. While Professor Frederick has succeeded in bringing material together from other sources, he has, in this reviewer's opinion, at various points failed to provide a penetrating analysis and evaluation to supplement the factual material.

Persons who are familiar with air transportation and its literature will be inclined to the opinion that the author went pretty far in wholesale adaptation. Cases in point, among others, are chapters III and IV on "Airport Development" and "Airport Adequacy," which are taken from the *Airport Survey* of the Civil Aeronautics Authority; chapters VIII, "Economic Regulation," X, on "Safety Regulation," and XI, on "International Regulation of Air Transportation," which are taken from the *First Annual Report* of the Civil Aeronautics Authority. As a result of drawing rather heavily on various written materials, the book is spotty. At some points there are inconsistencies which should have been ironed out before going to press. In addition, the statistical material is not uniform. The latest figures presented in some cases are a year or two earlier than those presented in works published several months before Professor Frederick's book. Perhaps it is unwise to speculate on the reason for this, but one explanation may be that, since almost all of the charts were reproduced from a booklet by the Air Transport Association, the author did not think it worth the trouble to make new charts to add the most recent figures.

In Part I the historical development of commercial air transportation is reviewed. Apart from one or two minor errors of fact (such as stating that the Air Commerce act of 1926 promised subsidies through air mail pay when the act had nothing to do with air mail pay), the section is a good brief summary. Chapter V, in which the various airlines are discussed, is superficial, reading much as if written by the publicity agents for the individual companies. Chapter VI, dealing with feeder lines, is well done and some real analysis is presented.

Part II deals with federal regulation. The chapter covering the various acts is not adequate. The Air Mail act of 1925 and its amendments, including the very important Watres act, are not even mentioned. Chapter VIII on "Economic Regulation" suffers from too heavy reliance on the *First Annual Report* of the Civil Aeronautics Authority. An analysis of the actual workings of the C.A.A. in its first year would hardly show such definite results as the annual report indicated. In the chapter dealing with the granting of certificates of convenience and necessity, there is a greater attempt at analysis than in most of the chapters. Here again it appears, however, that the author has relied too heavily on the surface of the printed pages of decisions and has not read

between the lines or tried to analyze the behind-the-scenes reasoning of the C.A.A. and Civil Aeronautics Board.

Part III, constituting about one-half of the book, is entitled "Problems and Services of Commercial Air Transportation." After leading off with a chapter on the economics of the industry, the author has descriptive chapters on airline equipment, operation, and financing, and an exceedingly interesting chapter on selling air travel. Unfortunately, the chapter on economics is very spotty. Several statements are easily subject to misinterpretation. For example, a breakdown of airline expenses is given showing a cost of 47 cents a mile, and the statement is made that this is indicative of the prevailing situation. It would have been much better to have given the range of costs; for 47 cents a mile is at the low end of the scale with several carriers running 60, 70, or 75 cents a mile. Likewise, with reference to joint costs, it is stated that a considerable portion of costs can be separated between mail and passenger and that "About a third of the direct aircraft operating expenses is incurred by planes assigned to exclusive mail or exclusive passenger service." This statement, taken from another source, is made in the present tense although the source of the statement indicated that such a figure applied to an earlier period and that, for a number of years, there have been no planes assigned to exclusive passenger service.

The present air transport system is largely the development of the system set up under the Air Mail act of 1934. For four years thereafter the Interstate Commerce Commission was the rate-making body. It set up several scales of rates and issued thirty-five decisions. For some years after the Civil Aeronautics act was passed, the Civil Aeronautics Authority (later Board) hewed close to the methods and procedures of the I.C.C. The reviewer is unable to explain why this important period is treated so sketchily in Professor Frederick's book. Only two pages are given to the I.C.C. period and the impression is left that only one decision was handed down.

It is a pleasure to find the final two chapters on "Air Express" and "Air Cargo" entirely original and containing keen analysis. Professor Frederick finds that the contract of the Railway Express Co. with the airlines for the carriage of air express is restrictive to air transportation. In the final chapter it is concluded that the present airlines are the logical carriers of air cargo in preference to separate companies. In both chapters the conclusions are supported by clear-cut reasoning.

While this book should prove helpful to those desiring a treatment of almost every phase of commercial air transportation within the covers of a single book, it is unfortunate that it is not more uniform in its degree of originality and economic analysis.

F. A. Spencer

Washington, D.C.

Bonanza Railroads. By Gilbert H. Kneiss. (Stanford University, Calif.: Stanford Univ. Press. 1941. Pp. xvi, 148. $3.00.)

Few of the western mining camps grew up along traveled ways; most of the great strikes were made in areas previously uninhabited and remote from

established transportation lines. In the early years of the camps the ore and concentrates were hauled slowly and expensively down steep mountainsides and across virtually waterless deserts. A cheaper form of transportation was essential for the bulky ore, and mining men soon turned to the use of railroads. By 1855, when the railroad network of the Middle West was hardly begun, the Sacramento Valley Railroad was operating eastward out of Sacramento into the mining country. The first transcontinental line had just been completed when the San Francisco bankers Sharon and Mills built the Virginia and Truckee from Carson City up the steep slopes of Sun Mountain into Virginia City, and northward from Carson to a connection with the Central Pacific at Reno. By 1875 the Eureka and Palisade (later the Eureka Nevada) had been built across the desert to Eureka, center of a rich new silver and lead district. In 1880 the Nevada Central was completed ninety miles down the Reese River valley to Austin. During the early eighties, almost before San Francisco and Los Angeles were connected by rail, the Carson and Colorado, a subsidiary of the Virginia and Truckee, had been built three hundred miles across the uninhabited deserts of western Nevada and over the White Mountains to reach the Cerro Gordo mines near Owens Lake in southern California.

In early years the lines were extremely profitable; for example, the Eureka and Palisade recovered its investment out of profits within a year of operation. But the mines soon began to decline, as the better grade ore was exhausted. Not only did the roads lose most of their ore traffic, but much of the other traffic also as the towns declined in population. Eventually came motor transportation to take much of the little traffic that remained. But the roads carried on. The Sacramento Valley, developing new traffic in lumber and fruit to replace the old, remains as a relatively important Southern Pacific branch. The Eureka and Palisade and the Nevada Central, unable to keep their worn old locomotives on the battered, rickety tracks, were forced to abandon their lines in 1938. The Virginia and Truckee still operates between Minden, Carson City, and Reno, but its schedule of a mixed train each way three times a week is far different from that of fifty-two trains daily of bonanza days. The line of the Carson and Colorado, sold long ago to the Southern Pacific, is also still in operation, except for the section over Montgomery Pass.

The history of these railroads, plus that of the San Francisco and San Jose, a line whose development bears little similarity to that of the other roads, is portrayed in detail by Mr. Kneiss. The book is an interesting contribution to the economic history of the Far West. None of the roads were of national concern, but they were of primary importance to the communities which they served, and their history is typical of many other roads of the West. The great difficulties of getting capital, the high rate of profit in early years, the charges of monopoly, the difficulties of readjustment to declining traffic are well portrayed.

Furthermore, the history of these roads illustrates well the thesis of Healy and others that the traditional concepts of fixed costs in the railroad field must be revised. Despite tremendous losses in business, these roads managed to continue operations for long periods by very great reductions in costs. It is

clear, however, that there are limits to cost reduction. A certain minimum annual expenditure on maintenance is necessary regardless of how light traffic density is; when the railroads reached the point that they could no longer cover this, their doom was inevitable. Both the Nevada Central and the Eureka and Palisade stopped operating because they could no longer keep their trains running with any degree of safety and no money could be obtained to make necessary repairs. The Virginia and Truckee abandoned its long unprofitable Virginia City line only when the tunnels closed so far that trains could no longer pass through.

JOHN F. DUE

Washington, D.C.

Labor and Industrial Relations

The Women's Trade Union Leagues in Great Britain and the United States of America. By GLADYS BOONE. (New York: Columbia Univ. Press. 1942. Pp. 283. $3.50.)

In 1903, just three decades after the establishment of what was later known as the Women's Trade Union League in Great Britain, the Women's Trade Union League of America was organized in Faneuil Hall in Boston. It is significant that the American League was organized in the shadow of an annual convention of the American Federation of Labor, then in session in Boston. It is also significant that Samuel Gompers greeted the new venture, as the author says, "kindly if somewhat condescendingly." Never really generous or whole-hearted in his support of the League, there were later moments when Gompers perhaps felt even less amiably disposed toward it than at its inception in 1903, as for instance in 1915 when the League's Committee on Judicial Decisions called attention to a possible "joker" in the language of Section VI of the Clayton act at the same convention at which Gompers less discerningly eulogized the act as "labor's Magna Carta."

This incident is cited not only to show the attitude of leaders in the trade union movement toward the League, but also as evidence of the author's skill in weaving the history of the League into the broader fabric of the labor movement itself. She describes the Women's Trade Union League as "the woman's movement within the labor movement," performing the dual task of organizing working women into trade unions, and interpreting to women's organizations everywhere the problems of women who work. It is a chronicle of a struggling organization within a struggling movement. For if as Perlman asserts, "the foremost problem of American labor has forever been that of organizing and staying organized against the disruptive influences of a predominant individualism," how much more has this been true of women workers in America! Hampered alike by lack of funds and apathy on the part of women workers whose economic status it sought to improve, whether through trade unions or legislation, the League has been "persistent, strenuous, militant," and its achievements should be evaluated in the light of the obstacles which have

confronted it. This the author has done with reassuring objectivity, especially for one who has herself been closely associated with the League.

A history of the British and American women's trade union leagues might easily have been little more than a detailed record of organizing activities, finances, committee work, and personnel, thus limiting its appeal to those actively associated with the work of the leagues. Instead, Miss Boone has drawn upon a thorough knowledge of the British and American labor movements to place the story of the organization and development of the two leagues in proper perspective within the labor movements of which they are an integral part. In doing so she has widened the appeal of her study to include all who are concerned with the development of the labor movement here and in Great Britain.

Miss Boone apparently disagrees with those critics of the League who believe that the weakness of working women's organizations in this country and elsewhere has been in part attributable to the paternalistic attitude of philanthropic women who through their own organizations have sought to secure benefits for working women instead of training them to be articulate in their own behalf. She believes that all the work of the League in this country has been broadly educational, and that the development of leadership within the group of working women has been one of its most important services. In her opinion, Mrs. Raymond Robins and the "founding philanthropists" have definitely helped to develop such women leaders within the labor movement.

If in the final chapter one feels some reluctance on the part of the author to evaluate the accomplishments of the Women's Trade Union League in this country, it may perhaps be attributed in part to her complete awareness of the obstacles which have confronted it in the past, and of the dimensions of the task that still remains to be done. She refuses to turn prophet. Of the future, she says only this: "Whatever may be the League's rôle in the future, its history shows that it may be credited with laying the essential foundations for the spread of organization among women."

MARGARET ELLIOTT

University of Michigan

Social Insurance; Relief; Pensions; Public Welfare

From Relief to Social Security: The Development of the New Public Welfare Services and Their Administration. By GRACE ABBOTT. (Chicago: Univ. of Chicago Press. 1941. Pp. viii, 388. $2.50.)

We have here an invaluable source book on the history of our public welfare policies and politics during the depression decade of the 1930's. And we have besides a most interesting and vivid commentary on these policies by the only social worker at the head of an important federal bureau when the financial collapse of 1929 came. Grace Abbott was head of the United States Children's Bureau from 1921 to 1934, and thereafter, until her death, she served

as professor of public welfare administration at the University of Chicago. The volume is edited by her sister, Edith Abbott, director of the School of Social Service Administration at Chicago. It consists of papers and addresses covering a multitude of subjects connected with our treatment of the unemployed and their families, as well as with mothers' aid, health security, and various features of the present Social Security act. Only those dealing with relief itself will be touched upon here.

Many passages bear quoting. Perhaps the most striking occur in the opening paper written in 1939, reviewing the decade as a whole in historical perspective. Characteristically it is called, "The Social Services, a Public Responsibility," for a favorite theme of both the Abbott sisters has been the need for government financing of all the major social services.

The opposition to public responsibility is sketched strongly, from the experiences of Dorothea Dix a century ago to the apple-selling attempts of the late Hoover period and the sudden killing-off of the Federal Emergency Relief Administration under the New Deal in 1935. "We were not prepared to feed the hungry in 1930," recalls Miss Abbott. "Relief was still entirely local—for the most part on a township or county basis. This meant that in some of our states there were a thousand or more independent poor-relief authorities. There were private relief societies only in the larger cities and towns. . . . Selling apples was to save the unemployed in our large eastern cities. . . . The 'block system' was next suggested. Under this plan each block was to care for its own poor. . . . Some blocks had no one in need, and in others practically everyone was unemployed and destitute. . . . President Hoover's method was the organization of employment committees on a national, state, and local basis. They were not to give relief—that was a mere palliative and reminiscent of the 'dole'—the new committees were to get jobs for the unemployed. The Hoover committees sat with folded hands, dedicated to the idea of prevention but with no program; while about them a vast epidemic of unemployment claimed an ever increasing number of victims. Expansion of private relief . . . was attempted. . . . But . . . emergency relief funds . . . were raised only in the large industrial centers. In mining villages, in single-industry towns, in rural communities, children were hungry and cold during these first years of the depression. Public assistance by the states or national government was called a 'dole,' and the word 'dole' was intended to carry with it the idea that the plan proposed was altogether repugnant to our social and political philosophy. Local charity, we were told, was adequate for the treatment of the effects of a disaster, the causes of which the same men said were international. . . . President Hoover, therefore, sent army officers, who, according to the press, were to be assisted by the local militia in a survey of relief needs. They telegraphed back that the local agencies and the Red Cross were adequately meeting the existing need. Their test was doubtless whether the victims were accepting the situation quietly or whether there was danger of riot and bloodshed. The surveys made during the winter by the United States Children's Bureau . . . showed that there was appalling suffering among children, that local relief was entirely inadequate, and that the states seemed reluctant to accept re-

sponsibility for the relief of what was clearly a national catastrophe. . . ." (pp. 19-22).

Finally, with the advent of the Roosevelt administration in 1933, the F.E.R.A. was set up. However, "although the F.E.R.A. was well administered and the needs of the unemployed were more adequately met during the period from 1933 to 1935 than ever before in our history, the federal government encountered great difficulty in many sections, particularly in the South, in persuading local communities to give adequate relief to the unemployed even when the federal government paid almost all the costs" (p. 28). Moreover, the F.E.R.A. had to exist on a hand-to-mouth basis. "Under the F.E.R.A. the state directors never knew in advance what amounts they would receive from the federal government or the conditions on which grants would be made. In other words, they did not know from month to month how much in federal funds would be available for direct relief, for the costs of administration, for C.W.A., for work relief in general, or for special groups of the unemployed (teachers, nurses, etc.), or for W.P.A." (pp. 46-47).

In 1935 the F.E.R.A. was abandoned altogether and the so-called "unemployables" were returned to the states and the local communities again. A period of great suffering ensued. "The return of those who are in need and not included in the benefits of the Social Security Act to the locally administered poor-relief system was as wasteful and inefficient as it had been cruelly unfair . . ." (p. 32). Miss Abbott calls it ". . . the chaotic and callous policy of no relief or inadequate relief which has been followed since the F.E.R.A. was stabbed by Brutus" (p. 46). "Another chapter in the tragedy of 1936," she adds, "was that the new Works Progress Administration was not taking all the so-called 'employables' off the relief rolls. The country, therefore, faced what the newspapers called a relief crisis but what those on relief called hunger and cold and eviction from their homes" (pp. 30-31).

In general Miss Abbott is extremely skeptical of the efficacy of a works program along the lines of W.P.A. While acknowledging the many constructive achievements of W.P.A., she insists that public works and not work relief should be the basis of future undertakings. "The democratic policy," she insists, "would be to provide public works with men and women employed not in accordance with their need but in accordance with their capacity as workers, and to provide full-time work. If we are to have selected groups, let the selection be on the basis of age rather than on need. Those who are past middle age will probably have the longest period of unemployment. . . . A public works program as well as W.P.A. can undertake a great variety of useful projects—small and large, construction and nonconstruction—and can operate both through contracts with construction companies or by direct employment. It will not give work to all the unemployed; neither, I remind you, has the Works Progress Administration been able to do this" (p. 44).

This then is the basis for insisting that direct relief on a national scale must always be part of a realistic policy of care for the unemployed. No works program can cover everyone. "W.P.A. has never provided work for all employables. The W.P.A. goal was not only impracticable—it was impossible. With

projects necessarily confined to those which will not compete with private industry and private employment, all the unemployed cannot be employed on any work-relief plan that anyone can provide . . ." (p. 42). The same would hold true for any system of public works.

The permanent scheme that Miss Abbott pictures includes, in addition to the unemployment benefits of the Social Security act and in addition to a public works program, continuous federal aid to the states and localities for relief. In place of spasmodic and grudging "emergency" grants, there would be a regular permanent system of allocations, and the costs would be met, not by borrowing as during 1933-35, but by general federal taxation. One can imagine the emphasis with which Miss Abbott would underscore her points were she alive today and facing the prospects of post-war unemployment. Two passages I believe Miss Abbott would particularly like to have us remember. One concerns the "unemployables." "The term 'employable,'" Miss Abbott reminds us, "depends on the labor market. . . . For example, during the war period, the so-called 'unemployables' whom we had in Chicago along Madison Street and Canal Street disappeared entirely; the queerest stick could get a job. . . . At the present time, when there are millions to pick from, it is easy to label anyone, whose appearance you do not happen to like, an unemployable" (pp. 221-22).

The other passage shows Miss Abbott's general philosophy of relief: "Unemployment may . . . be regarded in greater or less degree as the inevitable result of our industrial system. Our economic life is based upon it . . . industry counts on a reserve labor supply. . . . A democracy which supports this system should, therefore, make adequate and democratic provision for its victims, recognizing the cost of their care as the price it pays for the continuance of the capitalist system. Certainly those who profit most by this system should be the ones to insist that these costs be cheerfully met" (pp. 4-5).

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NOTES

PRELIMINARY PROGRAM OF THE FIFTY-FIFTH ANNUAL MEETING OF THE AMERICAN ECONOMIC ASSOCIATION

(Scheduled for Cleveland, Ohio, December 29-31, 1942, and cancelled on November 20, in response to the request issued by the Office of Defense Transportation that civilian travel be curtailed during late December and early January.)

Tuesday, December 29

10:00 A.M. 1. In What Areas or For What Functions Is Private Enterprise Necessary or Superior?—chairman, Bernard F. Haley, Stanford University

Papers: James M. Barker, Sears, Roebuck and Company; Henry C. Simons, University of Chicago

Discussion: C. C. Abbott, Harvard Business School; Myron Spencer, University of Cincinnati

10:00 A.M. 2. Problems Related to Price Control and Rationing (joint meeting with the American Statistical Association and American Marketing Association)—chairman, Theodore N. Beckman, Ohio State University

Papers: Milton Gilbert, United States Department of Commerce, "The National Income: War and Civilian"; J. K. Galbraith, Office of Price Administration, "The Price Control Problem"; "Rationing"; "Enforcement of Price Control"

2:30 P.M. 1. The Restoration of International Trade—chairman, to be announced

Papers: Lynn R. Edminster, United States Tariff Commission; Redvers Opie, British Embassy

Discussion: Geoffrey Crowther, Combined Production and Resources Board; Gottfried Haberler, Harvard University; Frank D. Graham, Princeton University

2:30 P.M. 2. Our Industrial Plant When Peace Comes—Paul T. Homan, War Production Board

Papers: Glenn E. McLaughlin, National Resources Planning Board, "Wartime Expansion in Industrial Capacities"; Edwin M. Martin, War Production Board, "Government Ownership or Control of War-Created Plant"; Joe S. Bain, University of California, "Effect of the War on Corporate Concentration"

Discussion: George Terborgh, Machinery and Allied Products Institute; Stacy May, War Production Board

2:30 P.M. 3. Problems Related to Price Control and Rationing (joint round table meeting with the American Statistical Association)—chairman, Henry Arthur, Swift and Company

Discussion: E. T. Grether, University of California; O. V. Wells, United States Department of Agriculture; T. O. Yntema, Cowles Commission

8:00 P.M. 1. Financial and Government Contract Adjustments of Industry at the End of the War (joint meeting with the American Statistical Association)—chairman, Alvin H. Hansen, Federal Reserve Board

Papers: William H. Moore, Hanover College, "Termination of Contracts and Disposal of Supplies after the First World War"; Hans Klagsbrunn, Defense Plant Corporation, "Methods of Financing War Industry Today"; Houlder Hudgins, War Production Board, "Issues and Policies of Control Termination and Plant and Stock Disposal"; "The Place and Problems of Private Industrial Finance"

Discussion: To be announced

8:00 P.M. 2. The Future of International Investment (joint round table meeting with the American Statistical Association)—chairman, Amos Taylor, United States Department of Commerce

Papers: V. Schoepperle, National City Bank, "Private versus Public Foreign Lending"; Frank W. Fetter, Haverford College, "The Need for Foreign Capital Investment"; C. P. Kindleberger, Office of Strategic Services, "The Planning of Foreign Investments"

Wednesday, December 30

10:00 A.M. 1. In What Areas or for What Economic Functions Is Government Action Necessary or Superior?—chairman, to be announced

Papers: Adolph A. Berle, Assistant Secretary of State; Alan R. Sweezy, William College

Discussion: Leverett S. Lyon, Chicago Association of Commerce; Frederic B. Garver, University of Minnesota

10:00 A.M. 2. Problems of Public Policy Raised by Collective Bargaining—chairman, to be announced

Papers: David A. McCabe, Princeton University, "Problems of Industry-Wide or Regional Trade Union Agreements"; C. O. Gregory, University of Chicago, "Problems of Public Policy Raised by the Provision of Trade Agreements"; Gordon R. Clapp, Tennessee Valley Authority, "Problems of Union Relations in Public Agencies"

Discussion: Abram L. Harris, Howard University

2:30 P.M. 1. International Financial Relations after the War—chairman, James W. Angell, Columbia University

Papers: A. Eugene Staley, Fletcher School of Law and Diplomacy, and Eugene Rostow, State Department, "The Economic Implications of Lend-Lease"; Harry D. White, United States Treasury Department, "The Problem of Post-War Currency Stabilization"

Discussion: A. F. W. Plumptre, Canadian Legation; R. L. Hall, British Supply Office; John Cover, Office of Lend-Lease

2:30 P.M. 2. Organized Labor and the Farmer (joint meeting with the American Farm Economic Association)—chairman, Sumner H. Slichter, Harvard University

Papers: Kenneth H. Parsons, University of Wisconsin, "The Basis for the Growing Tension between Agriculture and Labor"; Lloyd G. Reynolds, Johns Hopkins University, "Farm Price-Industrial Wage Parity"

Discussion: John D. Black, Harvard University

2:30 P.M. 3. Wartime Taxation (joint round table meeting with the American Statistical Association)—chairman, W. L. Crum, Harvard University

Discussion: Simeon E. Leland, University of Chicago; M. Slade Kendrick, Cornell University; Lawrence H. Seltzer, Wayne University; J. Raymond Walsh, Congress of Industrial Organizations

8:00 P.M. 1. Our Labor Force When Peace Comes—chairman, A. Ford Hinrichs, Bureau of Labor Statistics

Papers: Charles Stewart, Bureau of Labor Statistics, "Degree and Character of Wartime Expansion of the National Labor Force"; Richard A. Lester, Duke University, "Effects of the War on Hours, Pay, and Scale of Living"; Robert Gray, California Institute of Technology, "Impact of the War on Technical Training and Occupational Mobility"

Discussion: Paul L. Stanchfield, Michigan Unemployment Compensation Commission; Harold J. Ruttenberg, Congress of Industrial Organizations; Boris Shishkin, American Federation of Labor

8:00 P.M. 2. Economic Regionalism and Multilateral Trade—chairman, to be announced

Papers: Paul van Zeeland, Belgian Economic Mission, and Antonin Basch, Columbia University, "European Economic Regionalism"; F. Hilgerdt, Institute for Advanced Study, "The Case for Multilateral Trade"; William F. Holland, Institute of Pacific Relations, "Post-War Relations in the Far East"

Discussion: Margaret Gordon, Office of Price Administration; Henry Chalmers, Department of Commerce

Thursday, December 31

10:00 A.M. Division of Labor Between Government and Private Business—chairman, Wesley C. Mitchell, Columbia University

Papers: Clifford J. Durr, Federal Communications Commission; Lewis H. Brown, Johns-Manville Corporation; Fritz Machlup, University of Buffalo

Discussion: Maynard C. Krueger, University of Chicago; J. Frederic Dewhurst, Twentieth Century Fund

12:30 P.M. Presidential Address: Edwin G. Nourse

2:30 P.M. 1. Bases of International Economic Relations (round table meeting)—chairman, Leo Pasvolsky, Department of State

Participants: To be announced

2:30 P.M. 2. International Commodity Agreements (round table meeting)—chairman, Joseph S. Davis, Food Research Institute

Participants: Andrew Cairns, International Wheat Council; Robert M. Carr, Department of State; Egan Glesinger, Comité International du Bois; A. Rosenberg, League of Nations; L. A. Wheeler, United States Department of Agriculture

2:30 P.M. 3. Labor Problems (round table meeting)—chairman, Sumner H. Slichter, Harvard University

Papers: Clarence D. Young, Wesleyan College, "Estimation of Employment and Unemployment"; W. Rupert MacLaurin, Massachusetts Institute of Technology, "The Interpretation of Industrial Wage Patterns"

Discussion: To be announced

2:30 P.M. 4. Qualifications of Economists in Public Service (round table meeting)—chairman, Morris A. Copeland, War Production Board

Participants: To be announced

The following names have recently been added to the membership of the AMERICAN ECONOMIC ASSOCIATION:

Agisim, P., Apt. 8, 4312 Kaywood Drive, Mt. Rainier, Md.
Anrod, C. W., 5060 N. Winthrop Ave., Chicago, Ill.
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Arnolds-Patron, P., Division of Commerce, Texas Technological College, Lubbock, Tex.
Ashmen, Lt. R., Administrative Asst., Ship's Service Dept., U. S. Naval Air Station, Jacksonville, Fla.
Ashton-Hatley, G., Apartado 809, Caracas, Venezuela, South America.
Begdes, K., Dept. of Economics, Indiana University, Bloomington, Ind.
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Bledsoe, W. A., U. S. Department of Labor, Regional Office, 1355 Market St., San Francisco, Calif.
Borendame, J. E., Jr., 2280 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago, Ill.
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Bresky, H., 540 W. 157th St., New York, N.Y.
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Through an error in indexing, the customary order of the names of the authors of books reviewed and the writers of the reviews were reversed on pages i and ii of the June, 1942, number. Corrected pages are available for those who wish to replace the faulty sheet. Please send your request to the Editor, at 722 Jackson Place, N.W., Washington, D.C. All books reviewed in the June number are, of course, included in the Annual Index which appears as the final pages of this number.

The first meeting of the Bureau or Executive Committee of the Inter American Statistical Institute originally scheduled to meet in Rio de Janeiro, was held in Charlottesville, Virginia, August 21-23, with a bare quorum made up of the three North American members in attendance. Absent were the president, M. A. Teixeira de Freitas of Brazil, and the second vice president, Carlos E. Dieulefait of Argentina. Attending from the Bureau were Stuart A. Rice of the United States, first vice president; Ramón Beteta of Mexico, third vice president; and Robert H. Coats of Canada, treasurer; and from the Temporary Secretariat H. L. Dunn, secretary-general; and Miss E. Phelps, executive assistant.

The conditions of the Institute's statutes having been met by the formal adherence of "at least six" governmental members (actually seven—the Dominican Republic, Bolivia, Mexico, Costa Rica, United States, Brazil and Peru) and by an assured "annual operating income of not less than $10,000," full control of the Institute's affairs was taken over by the Bureau from the Temporary Organizing Committee. Washington was tentatively chosen for the duration of the war as the permanent seat of the Institute, and H. L. Dunn was elected secretary-general.

Juan de Dios Bojórquez of Mexico was elected editor-in-chief of the Institute's journal, the first number of which is expected to appear early in 1943, and Mr. Coats, chairman of the committee on current publications, was asked to make an early trip to Mexico City to perfect publishing arrangements with him. Other committees established were on an inter American statistical yearbook, on statistical courses, training programs and textbooks, on demographic statistics, and on projects.

The secretary-general was instructed to make an early trip to South America to confer with officers and members of the Institute in that continent, but travel priorities for his trip have subsequently been withdrawn, and certain assignments have instead been given to Forrest Linder, a participant in the Pan American Sanitary Congress at Rio de Janeiro.

Jens P. Jensen of the University of Kansas died August 25, 1942.

Appointments and Resignations

Ruth A. Allen, professor of economics at the University of Texas, has been appointed to the Women's Policy Committee of the War Manpower Board.

Clay J. Anderson, head of the department of economics and commerce at Central Missouri State Teachers College, is on leave of absence while serving as economist in the Bureau of Foreign and Domestic Commerce, Washington.

A. E. Andress of Hiram College taught economics at West Virginia University during the summer session.

Willard C. Beatty, assistant professor of economics at Brown University, has been granted a leave of absence to serve as State Price Officer for the Rhode Island Office of Price Administration.

Kutsi Begdes has been appointed part-time instructor in economics at Indiana University.

John F. Bell, professor of economics, has resumed his work at the University of Illinois after having leave of absence while serving with the Office of Price Administration.

Abram Bergson is on leave from the University of Texas to work with the Office of Strategic Services in Washington.

Philip W. Bishop has been appointed instructor in accounting and corporation finance at Oberlin College for the academic year 1942-43.

J. C. D. Blaine, assistant professor of business organization at the University of North

Carolina, has been granted a leave of absence to accept a commission in the Pay Roll Corps of the Canadian Army.

Roy G. Blakey, professor of economics at the University of Minnesota, was elected vice president of the National Tax Association at its annual conference held at Cincinnati during October.

Jay Blum of Kenyon College is serving as assistant professor of economics at Duke University this year.

Francis M. Boddy, professor of economics at the University of Minnesota, has taken a position in the Lead, Tin and Zinc Section of the Office of Price Administration.

T. H. Boggs of the department of economics, Stanford University, has been appointed acting executive head of the department.

J. Russell Boner has resigned as instructor of economics at the University of Illinois to accept a position with the Bureau of Foreign and Domestic Commerce.

A. T. Bonnell, assistant professor of economics at the University of North Carolina, has been granted a leave of absence to serve as economist with the State Department.

R. M. Bourne, assistant professor of economics at the University of Wyoming, has been granted leave of absence to accept an appointment with the Office of Price Administration.

P. F. Boyer has been appointed associate professor of business administration in the College of Commerce of Louisiana State University.

R. W. Bradbury of Louisiana State University has been granted leave of absence to serve with the State Department in Latin America for the duration of the war.

Philip D. Bradley, instructor in economics at Harvard University, has been granted leave of absence for the first semester of 1942-43 to travel and do research in South America. Mrs. Bradley, formerly of the Simmons College economics staff, will accompany him and will also carry out a research project.

Louis K. Brandt, formerly of the University of Wisconsin, is assistant professor of economics at the University of Texas.

Royal J. Briggs has resigned as assistant professor of economics at South Dakota State College to report for active duty as a Lieutenant (j.g.) with the Naval Reserve, temporarily based at Treasure Island, California.

Winfield S. Briggs, formerly head of the accounting department of Manhattan College, has been appointed assistant professor of accounting at Rhode Island State College.

E. Cary Brown, formerly teaching fellow and tutor in economics at Harvard University, is now with the Treasury Department at Washington.

Emily C. Brown of the department of economics at Vassar College is on leave for the year 1942-43 to serve as operating analyst for the National Labor Relations Board in Washington.

Gerald A. Brown of the University of North Carolina is with the Atlanta office of the National Labor Relations Board.

William Adams Brown, Jr., professor of economics at Brown University, spent the summer collaborating with the economic and financial section of the League of Nations at the Institute for Advanced Study, Princeton.

L. F. Brush has been appointed instructor in accounting in the College of Commerce, Louisiana State University.

Arthur F. Burns, on leave from Rutgers University, is visiting professor in the department of economics at Columbia University.

John E. Candelet has resigned as head of the department of economics of Rhode Island State College and accepted a commission as a Lieutenant in the Navy.

Eli W. Clemens has resigned his position at Southwestern Louisiana Institute to accept a position as associate professor of economics and public utilities in the College of Business and Public Administration, University of Maryland.

R. H. Coats, formerly Dominion statistician, has been appointed a special lecturer for the session 1942-43, in the department of political economy of the University of Toronto.

J. Herschel Coffee is on leave from West Texas State Teachers College to pursue graduate work on a part-time instructorship at the University of Texas.

J. Allen Cook has resigned from the department of political economy at the University of Toronto to enter the American Army Air Corps.

Arthur G. Coons, director of studies at the Claremont Colleges and now State Price Officer in Southern California with the Office of Price Administration, has been appointed dean and professor of economics at Occidental College. He will take up his duties in September 1943.

Clyde J. Crobaugh has resigned as head of the department of economics at Bethany College and accepted the position of chairman of the department of marketing at Fenn College, Cleveland.

Ernest Dale has recently been appointed instructor in economics at Yale University.

Carroll R. Daugherty, chairman of the department of economics at Hunter College, has accepted the position of director of the Division of Research and Review of the National War Labor Board.

Carl T. Devine, formerly of the University of Kansas City, has been appointed associate in the School of Business Economics at the Johns Hopkins University.

Dudley Dillard, recently with the Board of Investigation and Research, Washington, has resigned to accept a position as assistant professor of economics in the College of Business and Public Administration, University of Maryland.

James C. Dockeray has resigned from the James Millikin University to become professor of business finance in the College of Business and Public Administration, University of Maryland.

Peter Drucker has been appointed to the faculty of Bennington College, where he will teach courses in humanities and political economy.

Allan B. Edwards has been appointed instructor in economics at the University of Virginia.

Kurt Ehlers, formerly of the University of Indiana, is now assistant professor of economics at Clark University.

Wilford J. Eiteman, assistant professor of economics at Duke University, has had his leave of absence extended for another year to enable him to accept the appointment of price executive at Juneau, Alaska, with the Office of Price Administration.

Ralph C. Epstein, dean of the School of Business Administration at the University of Buffalo, has been granted a leave of absence to serve with the War Production Board in Washington.

Frank Bowen Evans, instructor at the University of North Carolina, has been commissioned as an Ensign in the Navy.

Earle F. Ford has resigned as part-time instructor in accounting at Rhode Island State College.

J. Fagg Foster, formerly an instructor in economics at the University of Texas, is assistant professor at Kenyon College.

C. Edward Galbreath has resigned his position at the Office of Price Administration and been commissioned a Lieutenant (j.g.) in the Navy.

David G. Geffner, instructor in business law at Rhode Island State College, has resigned to accept a position in the Adjutant General's department of the Army.

Ernest W. Gibson has been appointed assistant professor of business administration at Texas Christian University for 1942-43.

Eli Ginzberg of the Columbia University School of Business is on leave of absence while serving with the Services of Supply of the War Department.

Joseph Gordon, formerly with the Stockpile and Shipping Branch, War Production Board, has been principal economist at the Production Division, Office of Petroleum Coördinator for War, since May.

Wendell C. Gordon, formerly an instructor in economics at the University of Texas, is now in the Army.

Paul Gregory of the Department of Agriculture is serving as instructor in economics at Duke University this year.

Gertrud Greig is now an instructor in economics at Wellesley College.

Albert Griffin has been promoted from assistant to associate professor of business administration at Emory University.

Wilbur H. Haass, formerly of the University of Wisconsin, has been appointed instructor in accounting and economics in the School of Business Administration, University of Tennessee.

E. E. Hale has resigned as State Price Administrator for Texas to return to his position as professor of economics at the University of Texas.

Charles A. Hales, professor of economics, has been made chairman of the Division of Social Studies at Colorado State College of Education.

Bernard F. Haley of the department of economics, Stanford University, has taken leave of absence to serve as director of the Textile, Leather and Apparel Division of the Office of Price Administration in Washington.

James K. Hall of the University of Washington is serving as State Price Officer for the state of Washington with the Office of Price Administration.

Marjorie Linfield Handsaker is teaching economic statistics at Occidental College by special appointment.

George E. Hargest of New York has joined the teaching staff of Clark University as assistant professor of business administration.

Donald Harter has been made acting assistant professor of political science in the School of Business and Public Administration at the University of Missouri.

Seymour E. Harris, associate professor at Harvard University, has been granted a leave of absence for 1942-43 to do full-time work in Washington as director of import-export price control, Office of Price Administration.

L. T. Hawley of the University of North Carolina has been appointed State Price Executive with the Office of Price Administration in Alabama.

Floyd B. Haworth, associate in economics at the University of Illinois, spent the summer with the Board of Investigation and Research, Washington.

Harold E. Hardy has been made acting assistant professor of economics in the School of Business and Public Administration at the University of Missouri.

K. F. Helleiner has been appointed a lecturer for the session 1942-43 in the department of political economy, University of Toronto.

Leo Herbert has been appointed instructor in accounting in the College of Commerce, Louisiana State University.

James R. Hibbs has resigned as instructor in economics at the University of Illinois to accept a position at Carleton College.

Randall Hinshaw, formerly of Princeton University, has been appointed teaching fellow and tutor in economics at Harvard University for the year 1942-43.

Walter E. Hoadley, Jr., is now serving as industrial economist with the Federal Reserve Bank of Chicago.

G. L. Hodge has been appointed assistant to the dean of the College of Commerce, Louisiana State University.

John A. Hogan, formerly tutor and instructor at Harvard University, has been appointed an instructor in the department of economics and sociology at Tufts College for the year 1942-43.

Edgar M. Hoover, Jr., associate professor of economics at the University of Michigan, is now chief of the materials and equipment requirements section, of the Facilities and Construction Program Branch, War Production Board, Washington.

David L. Horowitz has received a continuance of his leave of absence from the position of Labor Relations Examiner, New York State Labor Relations Board, to accept an appointment as lecturer on industrial relations at Harvard University, made jointly by the Graduate School of Public Administration and the Graduate School of Business Administration.

S. H. Houston has been appointed instructor in economics in the College of Commerce, Louisiana State University.

Keith W. Johnson, formerly an assistant economic analyst with the construction staff of the Bureau of Foreign and Domestic Commerce, is now an associate economic analyst with the Materials Branch, Statistics Division of the War Production Board, Washington.

Andrew M. Kamarck, formerly of the office of the Secretary of the Treasury Department, is now on active duty in the Army, at the Field Artillery School, Fort Sill.

Forrest E. Keller, associate professor of economics at West Virginia University, has been commissioned as a Lieutenant in the Naval Reserve.

Arthur Kemp, formerly at New York University, is now an instructor in economics at Yale University.

Clark Kerr of the University of Washington is now serving as assistant State Price Officer in the Seattle office of the Office of Price Administration.

Vera Kilduff, formerly of Webber College, has been appointed instructor in economics at Vassar College for the year 1942-43.

Asa S. Knowles has resigned as dean of the College of Business Administration at Northeastern University and accepted a similar appointment at Rhode Island State College, where he will be professor of industrial administration, director of industrial extension and dean of the School of Business Administration.

Paul A. Kohler has been appointed instructor in accounting in the College of Commerce, Louisiana State University.

Alan C. Lanyon, formerly with the Statistics Division of the War Production Board, Washington, has been appointed instructor in economics and natural resources in the College of Business and Public Administration, University of Maryland.

Svend Laursen, formerly instructor in economics at Harvard University, is in Washington at the Office of Strategic Services.

Wassily Leontief, associate professor at Harvard University and now serving as chief of operational studies in the Post-war Division of the Bureau of Labor Statistics, has been elected to membership in the American Academy of Arts and Sciences.

Robert Miller Lewis has been appointed teaching fellow and tutor in economics at Harvard University for the year 1942-43.

Simon Litman, professor emeritus, has been recalled to give courses in economics at the University of Illinois for the first semester of 1942-43.

H. A. Logan of the department of political economy at the University of Toronto has been promoted from associate professor to professor.

Fritz Machlup, professor of economics at the University of Buffalo, has been freed from teaching duties for the year 1942-43 in order to devote his time to research under a grant-in-aid from the Rockefeller Foundation to the University of Buffalo.

Edna Macmahon, formerly with the New York State Labor Department as director of research in the Division of Minimum Wage and Women in Industry, has been appointed assistant professor of economics at Vassar College for the year 1942-43.

C. B. Macpherson has been granted a leave of absence from the department of political economy at the University of Toronto to lecture in the department of political economy at the University of New Brunswick.

John F. Markey, recently with the Institute of Applied Econometrics, New York City, has resigned to accept a position as associate professor of economics and marketing with the College of Business and Public Administration, University of Maryland.

Yves R. Maroni has been appointed teaching fellow in economics at Harvard University for the year 1942-43.

D. F. Martin, Jr., assistant professor of economics at the University of North Carolina, has been called to active service in the Army as a Lieutenant.

James A. Maxwell of Clark University is at present connected with the Fuel Rationing Division of the Office of Price Administration in Washington.

Kenneth M. McCaffree has been appointed instructor in economics at the University of Denver.

Don H. McClelland has been appointed instructor in economics at Brown University.

Mrs. Marian Meinkoth has been appointed part-time assistant in economics at the University of Illinois.

Max Millikan, professor of economics and research associate at Yale University, has been on leave since July in order to take a position with the War Shipping Administration, Washington, D.C.

Leon Milliken, instructor in economics at Rhode Island State College, has entered the Navy.

Waldo F. Mitchell is on leave of absence from Indiana State Teachers College for the year 1942-43 to be visiting professor of economics at Indiana University, where he is teaching courses in money and banking.

Theodosi A. Mogilnitsky has been promoted to associate professor at Loyola University, Chicago.

R. H. Montgomery is on leave from the University of Texas to work with the Board of Economic Warfare.

J. Theodore Morgan, formerly at Randolph-Macon Woman's College, has been appointed instructor and tutor in economics at Harvard University for 1942-43.

J. E. Morton of the department of economics at Knox College has been advanced to the rank of professor of statistics and economics.

Robert Mossey, formerly professor of economics at the University of Grenoble, has been appointed special research professor in the College of Economics and Business at the University of Washington.

O. T. Mouzon has been granted a leave of absence from the University of North Carolina for the fall quarter to serve as a civilian expert with the Army Quartermaster Corps in Washington.

John H. Myers has been promoted from instructor to assistant professor of economics in the School of Business Administration at the University of Buffalo.

Otto Nathan, formerly of New York University, has been appointed professor of economics at Vassar College for the year 1942-43.

E. G. Nelson of the department of economics, Stanford University, has taken leave of absence to serve in the Office of Price Administration in New York City.

Edmund A. Nightingale is on leave from the University of Minnesota to serve as principal industrial specialist with the transportation committee of the War Production Board, Washington.

Ruby Turner Norris, assistant professor of economics at Vassar College, is on leave for the year 1942-43, to serve as senior economist for the Office of Price Administration in Honolulu.

Arden B. Olson, formerly head of the department of commerce at the Arizona State Teachers College, Flagstaff, has been appointed associate professor of economics at the University of Denver.

Lewis M. O'Quinn is on leave from Louisiana Polytechnic Institute to pursue graduate work on a part-time instructorship in economics at the University of Texas.

Herbert H. Palmer, formerly of the College of Business Administration at Syracuse University, has recently been appointed assistant professor of economics and finance at Rhode Island State College.

Andreas George Papandreou has been appointed teaching fellow in economics at Harvard University for 1942-43.

J. F. Parkinson resumes his duties as professor in the department of political economy at the University of Toronto after a year's leave of absence spent with the government at Ottawa.

A. S. Patrick has been appointed assistant professor of secretarial training in the College of Business and Public Administration, University of Maryland.

Gardner Patterson, formerly teaching fellow and tutor in economics at Harvard University, is now with the Treasury Department at Washington.

W. Nelson Peach, formerly of the department of economics at the University of Texas, is on the research staff of the Federal Reserve Bank of Dallas.

Katherine Perring is now serving as housing economist with the Federal Housing Administration.

M. Ogden Phillips of Washington and Lee University was visiting professor of economic geography during the summer session at Columbia University.

A. W. Pierpont of the University of North Carolina is with the Office of Price Administration in Jacksonville.

Roy A. Prewitt, associate professor of economics at Central Missouri State Teachers College, has been granted a leave of absence to accept a position with the Division of Tax Research of the Treasury Department, Washington.

Leland D. Pritchard, formerly of Iowa State Teachers College, has been appointed assistant professor of finance in the School of Business, University of Kansas.

Clifford Pruefer, formerly a products unit head in the Zinc, Lead and Tin Branch of the Office of Price Administration, Washington, has been commissioned as a Lieutenant (j.g.) in the Naval Reserve.

Claude E. Puffer, associate professor of economics at the University of Buffalo, has been appointed acting dean of the School of Business Administration and acting chairman of the department of economics.

J. Freeman Pyle, formerly dean of the Robert A. Johnston College of Business Administration and head of the department of economics at Marquette University, has been appointed dean of the College of Business and Public Administration of the University of Maryland.

B. U. Ratchford is on leave from Duke University and is serving as State Price Executive for North Carolina in the Office of Price Administration.

E. G. Rayson of Chicago has been appointed professor of accounting in the College of Business and Public Administration, University of Maryland.

Nathan Reich has been appointed acting chairman of the department of economics of Hunter College.

Lloyd G. Reynolds, associate professor of political economy at Johns Hopkins University, is now chief economist with the Planning Division of the War Manpower Commission.

Mrs. Winifred W. Riefler has been appointed part-time instructor in economics at New Jersey College for Women.

John W. Riley, Jr., assistant professor of sociology, has been granted partial leave of absence from New Jersey College for Women to undertake research for the Office of War Information.

J. Wilson Rogers has been appointed an instructor in industrial management at the University of Kansas School of Business.

Brooks A. Sanderson has been appointed assistant professor of accounting at Rhode Island State College.

Fred Hugo Sanderson has been appointed teaching fellow in economics at Harvard University for the first semester of 1942-43.

George W. Sanford of Case School of Applied Science has been promoted to the rank of associate professor of economics.

Arthur Schweitzer has been promoted to assistant professor of economics and sociology at the University of Wyoming.

Alfred Seelye, instructor in marketing in the School of Business of the University of Kansas, has been given a leave of absence to serve as assistant head of the Commodities and Services Division of the Dallas regional office of the Office of Price Administration.

Edward S. Shaw of the department of economics, Stanford University, has taken leave of absence to serve in the Office of Price Administration, Washington.

Edward C. Simmons, assistant professor of economics at the University of Michigan, has taken a position in the Office of Alien Property Custodian, Washington.

Carel Jan Smit has been appointed as visiting lecturer on economics and tutor at Harvard University for the year 1942-43.

Harlan Smith of the University of Chicago, has been appointed teaching fellow and tutor in economics at Harvard University for the year 1942-43.

R. Elberton Smith has left the War Production Board and has been commissioned a Lieutenant (j.g.) in the Naval Reserve, on duty at the Office of Procurement and Material, Navy Department, Washington.

Victor E. Smith, formerly at Northwestern University, is now assistant professor of economics at Yale University.

Harold M. Somers has been appointed assistant professor of economics at the University of Buffalo.

E. D. W. Spingarn, formerly instructor of economics at Trinity College, Hartford, is now a Lieutenant in the Army, stationed in India.

C. P. Spruill, professor of economics at the University of North Carolina, has been given a leave of absence to serve as a Major in the Army Quartermaster Corps.

R. L. Stallings, Jr., instructor in accounting at the University of North Carolina, has been commissioned in the Navy Supply Corps.

George W. Stocking has resigned his position as director of the Fuels Division of the Office of Price Administration to resume his position as professor of economics at the University of Texas.

John A. Stovel has been appointed teaching fellow in economics at Harvard University for the year 1942-43.

Maxine Y. Sweezy, assistant professor of economics at Vassar College, is on leave for the year 1942-43 to serve as senior economist for the Office of Price Administration in Washington.

W. Lou Tandy has resigned as professor of economics at Eureka College and has accepted a position as assistant professor of economics at the University of Toledo.

Albion C. Taylor, dean of the Marshall-Wythe School of Government and Citizenship of the College of William and Mary, has been granted a leave of absence while acting as principal employment analyst for the War Manpower Commission, Washington, D.C.

Ralph B. Thompson has been appointed instructor in business administration in the College of Commerce of Louisiana State University.

Robert Triffin, formerly instructor and tutor in economics at Harvard University, is now with the Federal Reserve Board in Washington.

Randall W. Tucker, instructor in accounting at Rhode Island State College, has resigned and is now a lieutenant in the Navy.

Andrew Tully has been appointed instructor in economics at Vassar College for the year 1942-43.

Arthur R. Upgren, professor of economics at the University of Minnesota, has been appointed vice president of the Federal Reserve Bank in Minneapolis, where he will direct research projects.

Willard B. Van Houten, instructor in economics at Yale University, is on leave of absence while serving with the War Shipping Administration, Washington, D.C.

Ralph M. VanMetre, recently at Butler University, has been appointed instructor in economics and transportation in the College of Business and Public Administration, University of Maryland.

Jacob Viner, professor of economics at the University of Chicago, is visiting professor of economics at Yale University, where he is teaching international economics and doing research work at the Institute of International Studies.

J. M. Waller, instructor in business law at the University of North Carolina, has entered military service.

W. Allen Wallis of the department of economics, Stanford University, has taken leave of absence to engage in war research in New York City.

Miriam E. West, assistant professor of economics, has been granted a continuation of her leave of absence from New Jersey College for Women in order to serve as a director of statistical investigation for the War Production Board.

Bayard O. Wheeler has been appointed acting associate professor of economics and business at the University of Washington.

A. C. Whitaker of the department of economics, Stanford University, has retired and become professor of economics, emeritus.

Irvin Youngberg has been appointed an instructor in economics at the School of Business, University of Kansas.

Hans Zeisel, formerly statistical investigator for Market Research Company of America, has been appointed instructor in economics at New Jersey College for Women.